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A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

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THE MOTOR-CAR AND THE HOME.

THERE is nothing in common between a house and a motor-car; their functions are represented by opposites, by the laws of statics and the laws of motion. Sentimentally, an even wider gulf separates them, yet in the modern effort to make the best of all possible worlds there is a compromise between the home and the motor-car. An old tag comes to our mind: "Architecture is an expression of human life, manners, and customs, assumes varying forms, and adopts varying methods to express the varying condition of the life which it represents." Every year sees an increase in the number of motor-car owners, and the popular demand for the smaller type of car indicates the possibilities of a still greater increase. No longer can the motor be looked upon as a luxury; on the contrary, it would seem to have become a necessity for the middle classes. The transition of a luxury to a necessity involves a certain mental process, and the natural conclusion would be that other things must be modified to accommodate the revised outlook, unless there is an assumption that the standard of life has permanently increased to include motoring as a necessity.

We remember a pre-war complaint from picture dealers that the motor-car was affecting the sale of pictures, and in other directions there was evidence showing an adjustment in the scale of luxuries. Although a house—of some sort—is still a necessity, we have seen a gradual change in the minds of prospective house-owners. Their outlook on life has altered and affected the conception of a house and a home. There is a practical and a sentimental aspect of the matter in regard to architecture. The practical side represents the economies necessary to balance a certain amount of property and pleasure with a certain amount of money, and a typical balance-sheet shows the modern outlook to be represented by the small house which can be shut up at short notice, the small garden to save upkeep and expense, and a motor-car for week-end jaunts. Within certain limits this is a fairly accurate generalisation to put forward; the symptoms were evident before the war, and they are more obvious now.

Social problems involving "standing" do cause anxiety still—though most people would deny this—and it is generally assumed that the fact of owning a motor-car more than compensates for the small suburban villa. To have no maid and to do one's own housework is considered by some to be a small penalty to pay for "running" a car. On the other hand, there will always be some who will prefer to have the appearance of the larger house, even if the means are limited. The impression that the house is a little too big can be delicately conveyed. An architect's greatest asset is his knowledge of psychology, and he will not fail to understand the client who wishes to invest a certain sum in equal amounts in a house and a motor-car. The lady critic—who is always practical—will disagree with this architectural accomplishment, and when serving up her mixed hash of tips on houses she will steadily maintain that no architect can build a decent house. The speculative builder will see his way also. Contriving always to have ready the kind of little house most largely in demand, he will monopolise miles and miles of suburban streets with his "desirable bijou residences." We have previously stated that we expected to see a demand for small detached houses. The belief was based to a certain extent on the difficulty of obtaining domestic help, a disadvantage which is partly compensated by the relief afforded by the small house and the motor-car.

The sentimental aspect of the home has undoubtedly been affected by the motor-car, and the lure of speed and movement represents a spirit almost opposed to that which an old ancestral home conveys to us. We do not suggest that it is impossible to enjoy both, but we have brought a hurried and restless temper into our lives which demands movement, whereas the old red-brick house with its twisted chimneys was built when peace of mind and quietness were essentials. Looking at the old houses, there is one noticeable quality about them which is not a part of this busy life, and that is their endurance. Life was meant to be spent in them; they were homes to be handed on to succeeding generations. In the general rush of to-day the permanent home is not required and is often replaced by the small house or temporary shelter. It is this want of permanence which cuts at the roots of good work. Increased incomes do not have their effect in adding nurseries and libraries to £600 houses, but another small house is bought at the seaside, a convenient distance for "running down" at week-ends. Many years ago we were told that it was the frank sincerity of dealing with the needs of the people which made the cottages so charming and picturesque, and acting on this principle the buildings of the present day might have some charm and interest for posterity. A vagabond architecture would seem to be the ultimate development of a life spent in frantic haste.

It is to be regretted that when the conception of a home is altered the type and appearance of the house in many instances ceases to be a matter of much importance. Whatever crudeness the house may possess appears to be more than compensated by adding a garage. In the houses which we admire we assume that the owners renounced something for the sake of getting some special distinction. They got it, and were glad, and the world is the richer for what they gave up. To-day we do not ask so much; we accept the small house as a part of the necessary mechanism of the world, but we hope that it will be simple and homely. No one can be blamed for seeking to escape for a time from the drab monotony of suburban life which surrounds our industrial towns, and if the motor-car has brought with it a different outlook on life then architecture must respond. However much we may regret the passing of the old houses, we must either accept the changed condition or continue to live in the past until further damage is done. There should be great scope for architects in meeting these modern problems. A true development of architecture must be indicative of the lives of the people, and the psychological changes wrought by the motor-car will inevitably have their effect upon the conception of a home, and the size and quality of a house.

It is certain that economic conditions improve imperceptibly, but we can hardly assume that the standard has increased sufficiently to include the motor-car without a sacrifice in other directions. It is certain that we will see the result of this compromise in the cheap car and the cheap house and in the expensive car and the cheap house. There was just as much social snobbery in the large pretentious houses of Victorian days, but it is possible that we may now run to the other extreme with the snobbery of the car and the neglect of the house. Twenty years ago we would have assumed that the client who built a house costing £1,000 was not in a position to afford a standing charge of £200 a year for motoring. We will be wise to adhere to this assumption, and infer that the house is the factor which has been modified and not the economic condition.

NOTES.

The Cairo Hospital Competition.

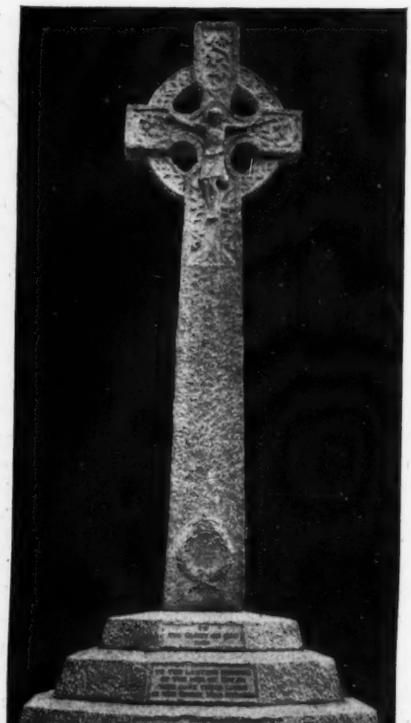
THE result of the Preliminary Competition for the Hospital and Medical School to be erected near Cairo by the Egyptian Government is given on p. 846 and may be regarded as a triumph for British architects. The competition was open to the world, and designs were received from many of the most distinguished architects in the United States, France, Canada, Italy, and elsewhere. Five out of the six places in the preliminary round have been won by members of the Royal Institute of British Architects, and the one successful foreign design is that of the firm of Messieurs Pierre and Louis Guidetti, of Paris. The assessor in the competition is Mr. John W. Simpson, Past-President of the Royal Institute of British Architects, whose comprehensive and invaluable set of conditions will be remembered, and we all known how important such are.

The Hospital Outlook.

HOSPITAL competitions, of which this week we review one recently concluded at Watford, are again being promoted, and doubtless with improving building conditions others of a larger order will be announced, as there is very much leeway to make up in the hospital world. The example at Watford possesses distinct points of interest, as the needs of the day call for utmost economy, and here suggestions were invited to this end by proposing to vary the usual arrangement and disposition of the so-called sanitary annexe towers. This method in the present case is not original, as it has been attempted before, but never, so far as we know, in so definite a manner and providing the utmost safeguards for ventilation. This is all to the good, and welcome will be accorded to this definite advance in the science of hospital planning; criticism may be forthcoming, but this will no doubt be effectively met. It is interesting to observe such advance being made in this somewhat difficult branch of professional practice, which until a few years ago was confined to quite a small circle of architects. Fine architectural character was at a discount, it no doubt being deemed that hospital requirements were at variance with successful architectural treatment. This idea has happily been practically dispersed. Hospital design has its own distinctive characteristics, capable of definite artistic expression so that such buildings may no longer be drab, depressing, and expensive in production. This welcome and widened outlook of changing conditions and methods has lifted the subject to a brighter and healthier plane.

The Future of Hospital Design.

OUR coming hospitals, therefore, give every promise, while not betraying the solemn trust imposed upon their designers in providing for the requisitions of science appropriately arranged for the prosecution of medical and surgical treatment, together with administration of the sick and nursing services. These are the qualities and requirements demanded of architects of such buildings, which should form worthy and notable war memorials, for surely no nobler provision can be conceived by a grateful community. We are, therefore, glad to note that pleasing external characteristics are beginning to appear, giving expression to the internal requirements. The old order is giving way to the new; due reverence is being accorded to restraint and conformity to the absolute requirements, not only in helping the speedy return to health of the temporary patient but in considering the comfort of the nursing officials, and a sense of homely beauty, pleasure, and comfort that makes for efficient working, and procures the pride and approval of those who provide the hospital and those who maintain it. Such, we think, will be the case at Watford.



Epsom War Memorial.
CAPT. W. H. HATCHARD-SMITH, A.R.I.B.A., Architect.

[This memorial was unveiled on December 11. The granite Celtic cross is a monolith, 18 ft. high, standing on three granite steps. On the back of the cross is a crown, and the arms are filled with rope pattern. On the shaft is a Crusader's sword. The monument stands on a grass bank, and is approached by circular York stone steps. There is a wide York stone path, laid crazy pattern, all round, having as background a yew-hedge with two openings which are to be filled in with wrought-iron gates in memory of the University and Public School Corps, and sloping grass banks with low wall in foreground. The memorial and surroundings have been designed by Captain W. H. Hatchard-Smith, A.R.I.B.A., 6, Duke-street, Adelphi; Messrs. Harry Hems & Sons, of Exeter, executed the work, and Messrs. Henry Taylor & Sons, of Epsom, are carrying out the steps, walling, &c., and Mr. Harknett, of Epsom, the grass, banks, and yew-hedge.]

The City Churches

IN a recent letter to *The Times* Mr. Arthur Keen, Hon. Secretary of the Royal Institute of British Architects, refers to a letter in defence of the City churches written in 1854 by Sir Gilbert Scott to the then Bishop of London. "It was published," says Mr. Keen, "by the City Church Preservation Society, and it covers the ground so completely and speaks with such authority and conviction that one can hardly feel, after reading it, that we have any right to destroy these churches. He makes his claim on the ground of considerations that ought to appeal to every churchman; he is very contemptuous of those who seek to secure their new churches in the suburbs for nothing, and he shows the danger that lies in the extension of the principle of turning into cash the things that appear, from the material standpoint, to be no longer required. This last point surely needs no urging. The time might come when the eyes of the covetous would be cast even on the Tower of London as a valuable property that no longer serves a useful purpose and might be sold!"

Art and Industry.

AT the present time much is weaving itself towards the strengthening of human relationships, and the conversion of industry by the infusion of a better spirit should effect a great influence in shaping its work to new achievements. We have to note an increasing tendency in art to express itself through the ordinary channels of industry, and its distribution on a wider scale through its association with commerce; and we see this to be possible without violation of its excellence. The good thing should be the ordinary thing—it is a symptom of decadence if anything else. The restoration of craftsmanship must come through tndustry, because it must have organisaiion wide enough to distribute it on a national basis. Such co-operation is not to be identified with commercialism, and holds all the promise which a working co-operation between the artist and the commercial life of the country promotes. We are emerging from the period of the individual craftsman of isolated studio practice, and looking for his relationship to society and his identity with industry

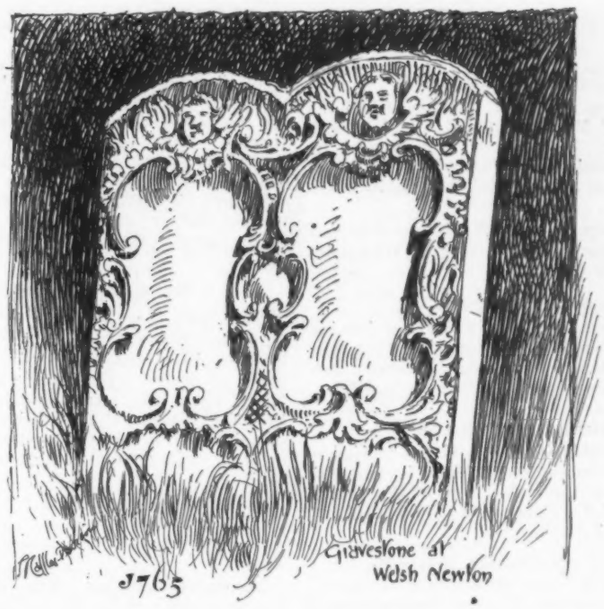
on sounder lines. The old Sheffield plate which we collect and admire was not the outcome of an esoteric exclusiveness, but of intelligently co-operative workshop practice, on the ordinary terms of the national industry of the time, and the work of our own time is to restore this normal character to artistic production, away from the fastidious, towards the sensible, infusing the community with the genius of the individual.

The R.I.B.A. Meeting

THE meeting held at the Royal Institute of British Architects last Monday evening will undoubtedly rank in the memories of those who were privileged to be present as one of the most remarkable and memorable held within the walls of No. 9, Conduit-street for many years past, when Mr. Thomas E. Collcutt read a paper on architectural education. The occasion calls for something more than passing comment, and it is necessary to record some of the impressions afforded by the meeting. Here was a popular Past-President and Royal Gold Medallist, distinguished among his colleagues by length of days and prominent and outstanding success in public life, won by sturdy pertinacity, based upon competition success, and one whose work is throughout marked by personality. He fearlessly faced what very well might otherwise have been a hostile audience, composed of all sorts and conditions of architects who constitute at the Royal Institute "past, present, and future," as the issue showed. Mr. Collcutt's paper was a long one, and in the end was somewhat discursive, but he held his audience from the outset; there was no need indeed for affectionate excuses, for though he was entirely serious in his allegations yet the whole burden of his message was bubbling over with boyish merriment—there is no other word to express it,—much to the delight of his hearers however much they may have disagreed with the sincerity of his criticisms. Many were present not only to do him honour but to profit from his ripe experience of professional matters. The meeting was noticeable in eliciting a remarkably interesting discussion, which alone would call for more than passing comment.

Architectural Study.

MR. COLLCUTT, as Mr. Slater happily phrased it, appeared before the meeting as a St. George of England going forth to attack the Dragon of the Modern Architectural School. In a right merry mood, and entirely unaffrighted by what quite possibly might have been keenly objected to he proceeded to the assault of the system as illustrated by the syllabus of the Architectural Association in particular, and the Liverpool and other popular methods of education, as being derogatory



to progress and the production of the best results so far as the making of architects was concerned. The various works and methods advocated were exhibited by the lecturer not only in his manuscript but punctuated in pungent and explanatory interludes by way of illustration. Notwithstanding his vigorous onslaught, Mr. Collcutt's paper was packed with useful suggestions and reminiscence, some, indeed, of a very practical kind; while others partook of the nature of confessions. This course seemed infectious, for the President of the Royal Academy dropped into the same vein, perhaps not entirely unintentionally, in his most delightful speech, surely one of the best he has made, and of a wise, useful, and tactful nature much to the mind of the meeting. There were various interesting touches in Mr. Collcutt's paper that should be recorded. He referred to the gift of observation, and comparison with St. Peter's, Rome, was advanced in urging the importance of the cultivation of this gift. Another revelation of a personal nature was his delight in reading, which cultivated this essential quality in the training of an architect, added to which was the delight he had found in recent years in the pursuit of water-colour sketching.

Past and Present.

THESE were not all the intimate revelations that Mr. Collcutt so freely contributed as influential in the formation of the faculty of observation, but he proceeded to reveal some home-truths of the internal organisation of his office. On einstance was given, the handling of one pupil, the helpful product of a former generation of students of Architectural Association training, which the present "knoweth not." Mr. Collcutt said that this product of a former generation proved himself to be such a valuable asset to his office that his partner suggested that a salary ought to be paid, the usual premium being conveniently forgotten, added to which the genial and well-known "examination crammer," F. R. Farrow, was engaged to come and lecture to the pupil in the office, and not to him only but also to the staff in general. All this was adduced to indicate whence we had come and whither we were drifting in the architectural world, and all offered for review and reflection. In moving the vote of thanks, Mr. Slater, with his wide experience of architectural education, firmly defended modern methods which changing times had brought to present-day studies. A considered issue to a very useful meeting ere it closed was raised by Professor Pite, who suggested that the time had come for the R.I.B.A. to call a conference of the architectural teaching bodies throughout the country, and to review progress since, say, the time of the Great Exhibition of 1851, and to inquire into what underlay the movements of the past, such as the Neo-Grec, the Roman phase, and the following Gothic revival; and to formulate and co-ordinate a sound basis for the teaching of what was really sound building. In a few well-chosen words, the chairman (Mr. Guy Dawber) revealed a solemn statistical fact of there being already eight hundred students now in the country in accredited architectural schools to which has to be added, say, four hundred pupils in architects' offices, and to which has to be added another four hundred pupils in the polytechnics. It is truly an appalling condition of things to contemplate how all these young men are to earn their living when cast into the profession. It is a question whether a holiday will not have to be called for architectural schools as is being done in the Navy, and a drastic economy in training called for

GENERAL NEWS.

Professional Announcements.

Mr. Kenmure Kinna, of Wallasey, Cheshire, and Mr. S. A. H. Mackey, A.R.I.B.A., of Warrington, Lancashire, have entered into partnership as architects and surveyors, and will carry on their practice at Liberty Building, School-lane, Liverpool.

Messrs. George Hubbard & Son have removed to No. 45, New Bond-street, W. (Telephone, Mayfair 7016).

Fulham District Surveyorship.

The Building Acts Committee of the London County Council has recommended that Mr. William H. Rogers be appointed District Surveyor for Fulham, as from January 1, 1922.

Bamford War Memorial.

A public meeting at Bamford has decided to erect a war memorial in the form of a monolith to be placed in the main street of the village. The design of Mr. F. Ratcliffe, of Bamford and Sheffield, has been accepted.

Proposed East Midland University.

Sir Jesse Boot has given a large park, known as the Highfield Estate, between Nottingham and Beeston, as a site for the proposed East Midlands University. Sir Jesse Boot is giving £100,000 towards the new buildings and also £50,000 towards the endowment fund. The park contains a large lake and is being connected with Nottingham by a wide boulevard, a mile and a half long, which Sir Jesse Boot is having constructed at a cost of over £100,000.

Insurance Companies' War Memorial.

The war memorial of the London and Lancashire Insurance Company and allied offices was unveiled last week at the offices of the Chief Administration, Chancery-lane. The memorial, which is erected in the entrance hall, takes the form of a white marble pedestal, on the four panels of which are inscribed the names of the fallen. On marble panels on the wall at the rear of the memorial are recorded the names of all the members of the staff who served in the war and survived. The memorial was designed and carried out under the superintendence of Mr. Arthur Blomfield, F.R.I.B.A., the bronze figure being the work of Mr. T. Mewburn Crook.

The Birch Burdette Long Sketch Competition.

The Birch Burdette Long Sketch Competition of 1921 for sketches of buildings or of an architectural character has just been judged at the Architectural League of New York by Mr. Howard Greenley (President of the League), Mr. Charles Z. Klauder, Mr. Bertram G. Goodhue, Mr. Birch Burdette Long, and Mr. Eugene Clute. The prize-winners are as follows:—First prize ($100), Mr. K. J. Conant, Cambridge, Mass.; second prize ($50), Mr. R. A. Lockwood, Los Angeles; third prize ($25), Mr. O. F. Langman, New York; fourth prize ($15), Mr. E. J. Chisling, New York; six $10 prizes: Messrs. C. H. Nelson (Alfred, N.Y.), W. H. Butterfield (New York), J. Wenrich (Rochester, N.Y.), E. M. Fry (Liverpool School of Architecture), L. H. Pries (Philadelphia), and A. G. Wilson (Montreal).

Kettering War Memorial.

A war memorial to the 835 men of Kettering who fell in the war was unveiled on December 17 by the Duke of Atholl, D.S.O. Designed by Messrs. Gotch & Saunders, of Kettering, and carried out by Messrs. T. W. Cox & Co., Kettering, the memorial takes the form of a cenotaph. It is a large oblong block with slightly sloping faces crowned with a cornice, and it is relieved by shallow quasi-pilasters at the corners. In the sunk spaces between the pilasters are the inscriptions, and beneath each inscription is a carved wreath. The cenotaph is approached by a wide flight of steps, and is in an enclosure with gates at the top of the steps. The memorial is placed on the southern side of the Alfred East Art Gallery, and the wall of the Gallery has been utilised in the scheme, a group of panels containing the names of the men who fell being placed thereon. These panels are of green slate and stand on a moulded base. The site of the memorial forms part of a group of interesting structures, including the Parish Church and the Art Gallery, which present a fine view to people entering the town from the railway station.

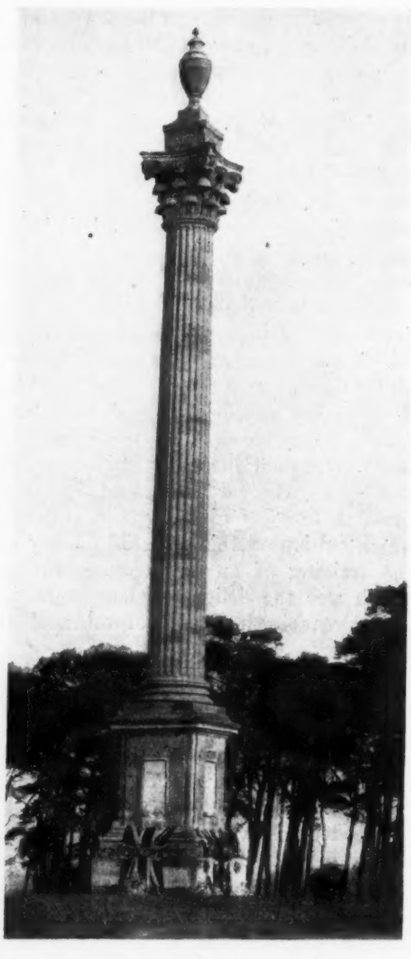
The Surveyors' Institution.

NEW BY-LAWS.—An Order in Council, dated December 13, 1921, sanctioning the draft by-laws, has been made by the Privy Council. The new by-laws will come into operation with the New Year. The amalgamation with the Quantity Surveyors' Association will be completed as soon as the meetings necessary to wind up that society in its present form have been held.

CONJOINT BOARD OF SCIENTIFIC SOCIETIES.—Mr. F. H. A. Hardcastle has again been nominated to represent the Institution on the Conjoint Board.

FORESTRY LECTURES.—The series of Forestry Lectures given at the Institution will be continued during January, viz.:—January 4, "Forest Botany," by Major K. W. Braid; January 18, "Practice of Sylviculture," by Professor H. A. Pritchard; the lectures are open to members and visitors without charge.

ANNUAL DINNER.—The annual dinner will be held at the Connaught Rooms, Great Queen-street, on February 21.



The Elveden-Eriswell-Icklingham War Memorial.
MR. CLYDE YOUNG, F.R.I.B.A., Architect.

EXHIBITION NOTES.

The Twenty-one Gallery.

THIS Gallery has created an atmosphere for itself, so much and so pleasantly its own, that we may generally depend on some feature in any of its exhibitions being somewhat out of the ordinary and of the commercial side of things. And this is the case in the present instance, for there is included in this exhibition of the work of the late Walter Crane examples which have not been shown before, and which illustrate the many-sidedness of his production. For the shock of Crane's duality, that shadow which was not him, but which overlaid so much of his work, we may pierce for a moment here. Crane, though he mastered so many activities as an artist, never quite mastered himself, and we feel that in the inequalities—the lapses—that happened in his work. There are examples here of his early drawings—a few of his best illustrations, such as Nos. 1 and 2 and 18—in which we see the best of the artist, and soon after Nos. such as 12 and others, which are not justified by the necessary inequalities of the artist's work, but which are its sheer betrayal. On looking at this collection one cannot but feel how much better it would have been to withhold many such examples from exhibition, so unfortunate for the reputation of an artist who cannot be disregarded and who at his best brought nobility and genius to his creations. Crane's abstract feeling for ornamental design, good though it was, seemed hardly ever warmed and exalted by human interest. The human figure was an appendage of his ornament, not its inspiration, and even in his more pictorial work, such as "Sir Galahad" (No. 28), with all its richness of landscape background in the early Italian manner, the knights themselves have no interest whatever. No. 10, an embroidered panel, is a very beautiful piece of work, and No. 27, "Under the Ilex Trees," is a very charming landscape, thoroughly wrought, and full of classical feeling, in spite of the women's figures in the foreground, which are composed as though for a confined space and are unsatisfactory in their relation in the picture.

A little tempera picture painted in Rome about 1868, under the influence of sixteenth-century Italian art, has agreeable qualities. Time takes its revenges either one way or another, and it has been in some ways less than just to the genius of Crane. There has been an inclination to underrate the very real distinction and personality of his work in his own field, which amounted to genius in his best work. The pity of it lies in that the artist himself has been partly the cause, in the failure from his own standard, of the decline in the quality of his later work, which was in inverse ratio to the applause he gained for it. "The Baby's Opera" among his books, "The Mirror of Venus" among his pictures, have qualities of beauty which none can disregard; and we have all the more reason to regret the untoward influences which divided him from the security of his own natural endowment and inspiration. His work, as it is that of all art, was to purify and ennoble the world, and so far as it lends itself to the tyranny of necessity and fortune it will be broken on its wheel.

This exhibition should be missed by no one wishing to become better acquainted with one of the most original decorators of the late Victorian period.

Proposed New Baths at Paddington.

The Paddington Borough Council has been recommended by the Baths and Wash-houses Committee to build a new baths and wash-houses establishment in Porchester-road, at an estimated cost of about £110,000, and to appoint Mr Herbert Shepherd, F.R.I.B.A., as architect to carry out the work. The proposed new baths will comprise the following approximate accommodation: Two swimmimg-baths (100 ft. by 35 ft. and 75 ft. by 30 ft. respectively); 62 slipper-baths; public laundry with 30 tubs, &c.; establishment laundry; boiler-house; workshop; superintendent's quarters and offices; ticket offices; club rooms; committee room, &c.

CORRESPONDENCE.

Preservation of Stone.

SIR,—I think it is necessary to comment on one or two statements made by Dr. A. P. Laurie in your issue for the 16th instant.

The action of "fluate" (silico-fluoride of magnesium) does not "depend for its action on the destruction of the natural cement of the stone"; and Dr. Laurie's experiments to prove "that compounds of magnesium and calcium fluosilicate do not act as true cements" were beside the mark, because the salts are not correctly used, or tested, as binders. The action of silico-fluorides will be described in the publication which my Board hopes shortly to make of the extensive experiments by Dr. C. H. Desch, Professor of Metallurgy at Sheffield University. This publication will also detail the correct treatment for each of the best-known English building stones with one or other of the silico-fluorides, and will also give the results obtained after thirty years' use in France. The selection of English stones was made in consultation with an officer of the Geological Survey.

I may say that last year, before deciding to advise the Building Research Board to interest itself in stone preservation, at the suggestion of Professor Lethaby I made a rapid survey of work done on the subject up to that date, consulted two or three men of experience, and decided that the only line of advance was in the scientific and careful use of silico-fluorides. Every other treatment seemed to have resulted in failure. There were some failures to be credited to the use of silico-fluorides, but these have been found to be due to the use of one of the salts as a "patent medicine," on any stone indiscriminately, with only one set of "directions on the label." In this connection I would point out that it is not enough to avoid the "material with a fancy name" put forward by the pertinacious agent for commercial stone preservatives; one must also avoid using known materials incorrectly. It is as easy for a patient to make himself worse, as it is for a doctor to cure him, with the same drug.

The great circumstance in favour of proper silico-fluoride treatment is that it leaves the stone still a true *stone*, with a surface hardened and resistant, but still porous. Filling the interstices of a stone with oils, waxes, resins, and other organic materials is only "stone preservation" in the sense that an anatomical specimen is preserved when it is bottled up in spirits. In our anxiety to preserve our stones we must be careful not to turn them into pickles *in situ*.

I wish to add a word of thanks to Mr. Noel Heaton for the excellent review of the subject he put before the Royal Society of Arts in the paper mentioned by Dr. Laurie. I was present, but had no opportunity of joining in the discussion.

H. O. WELLER,
Director of Building Research.

SIR,—I doubt whether the softer and easily worked oolitic limestones are now much used in localities where sulphuric acid gas is known to be more than normally present. It is remarkable that in stone of this kind the less exposed parts—archivolts, the soffits of projecting strings and cornices—are often the first to show signs of decay. Why is this?

I should like to say that, in my opinion, the cause of decay in stonework is in some measure due to the presence of quarry sap in the worked and fixed stone, and also to the presence of vents—the latter more particularly in Portland stone—due to quarrying. A mason cannot work a vented stone without quickly becoming aware of the vent; nevertheless, vented stones are worked, and, it is reasonable to conclude, in some buildings, are fixed, otherwise it would not pay to work such stones.

My own experience tells me that it is a good practice to "ring" every stone with the hammer end of a steel chisel before building the stone into its wall. If the stone is not sound it will "chatter." In the softer stones it would be an advantage not to work and fix them until the quarry sap is out of them. But this would mean additional cost and delay.

Like your correspondent in your issue for the 16th inst., I am not inclined to put much trust in preservative washes, in the preparation and application of which certain conditions are prescribed to ensure success. It is not always easy to be sure that the workman will be sufficiently interested strictly to adhere to the conditions.

In exposed situations, during heavy continuous rainstorms, the writer has known both Bath stone and Portland stone to take in moisture to the degree of super-saturation, so that the stone might be said to leak. In such a case as this, where severe frost follows, disintegration is inevitable. An instant and ready way of dealing with porous stones, when built into the building, is to bed slates in cement on their interior faces. Their exterior faces are sometimes coated with two coats of hot boiled oil. But the stones in such cases should be dry, that the oil may be absorbed into the body of the stones and there coagulate, so as not to depend for protection on the film coating only.

F. WALKER,
Clerk of Works.

Brass Engraving.

SIR,—In a recent article you referred to the method of engraving adopted by the artists of Flemish and English brasses. There is a common opinion among some artists to-day that what is known as V-cutting is an ancient form of engraving. May I say that, having had many opportunities of handling and closely examining ancient brasses of foreign as well as English workmanship, I have failed to find an example of a clean-cut V-shaped incision, such as properly belongs to marble, in which the cut is made broadways with a wide chisel and not longways, as in brass engraving. Naturally the tool, which was apparently just such as ours to-day, had a sharp-pointed lower edge, but, except in the case of very fine lines, a single cut of the tool did not suffice for the stroke of a letter. Spaces from an eighth of an inch wide up to any width were cut by a number of incisions side by side like a multiple of w's. But the common way of cutting the down stroke was to cut an outline on each inner side of the stroke, leaving a narrow strip of brass between to be removed either by a cut of the same tool or by a flat tool, according to the width required. At Luton, in the marginal inscription of the Acworth brass (1513) the letter "i" in the word "Timor" is proof of the adoption of this method, for after cutting the two outer incisions the inner strips of brass were left unremoved (see rubbing herewith). There

is no difference in the method of engraving this sixteenth-century brass from that of the thirteenth century. All wide lines exhibit a more or less flat bottom, in many cases cross-hatched.

With regard to filling, many quite early brasses show signs of the remains of some kind of bituminous filling which melts at moderate heat, and that this is not merely pitch used for fixing or refixing at later date is evident from the fact that I have found remains of red colouring matter. At the Victoria and Albert Museum there is a brass from Cologne (H. Oskins, 1535), the whole of whose sunken groundwork is filled flush with a hard black substance, not enamel, which has been almost entirely preserved.

Of course, vitreous enamel was used and may still be seen in our first brass, at Stoke D'Abernon, and later at Carshalton. Most antiquaries who have studied brasses believe they were frequently richly decorated with gilding, inlaid white metal or lead for silver or white fur, and other colouring matters.

WALTER E. GAWTHORP.

Estimating for Building Work.

SIR,—May I very sincerely endorse the views of "Perplexed Estimator," which appeared in your issue for December 9? There is a great need for a book on estimating for building work which will not be influenced by fluctuating prices of materials and labour.

Admirable in their way, London prices are not altogether suitable for the provinces, and anybody who has had the experience of pricing out bills of quantities during recent years will agree that estimating nowadays is a far more difficult matter than before the war.

Cannot the building trade produce such a book? "ANOTHER ESTIMATOR."

Weston-super-Mare.

SIR,—I have read "Perplexed Estimator's" expressions concerning estimating books, and their quickly-waning utility. He has not been alone in this predicament, but his sorrows may soon be over.

What he desires is an estimating book which has an elasticity to cope with fluctuating markets Such a book has been in manuscript form for the past twelve months, and has been used in estimating for housing schemes in this district. Its contents have been discussed in conference with picked estimators, and have been vindicated in a remarkable manner by statistics of completed contracts. It is now in the press, and will be ready for issue early in January. Its title is "The Building Estimator," and it will be advertised in the first January issue of *The Builder*. "BUILDER."

Cardiff.

Slag in Concrete.

SIR,—At intervals there are statements in the Press that cement concrete with slag aggregate has failed after long years of apparently sound life. It is difficult to find instances.

Might I invite your readers to give particulars of such failures to the Building Research Board? The information will be treated as confidential, if so desired.

H. O. WELLER,
Director of Building Research.

16 and 18, Old Queen-street, S.W. 1.

Lectures on Historical Building Construction.

A novel course of lectures is to be given at University College, London, during the coming term, by Mr. Martin S. Briggs, F.R.I.B.A. (Godwin Bursar, 1914), on "The Historical Development of Building Construction." This course is intended for those who already possess a knowledge of building construction and of the history of architectural development, but whereas history and construction have hitherto been taught as separate subjects, the lecturer will show their mutual interdependence from the days of the ancient civilisations down to modern times. Attention will be given to minor points of exceptional interest in which the problems of the old builders may be compared with our own. The subjects of the ten lectures will be: (1) Brickwork; (2) Masonry; (3) Concrete and Marble; (4) Carpentry; (5) Joinery; (6) Ironwork; (7) Roofing; (8) Plasterwork; (9) Leadwork; (10) Glazing. They will be illustrated chiefly by means of blackboard sketches, lantern slides, and measured drawings lent by members of the Bartlett School of Architecture staff. The lectures will be given on Wednesday evenings in the Architectural Theatre at 6.15 p.m., beginning on January 25. The fee for the course is 10s. 6d. to students of the College, and £1 1s. to others. Application for tickets of admission should be addressed to the Secretary, University College, London (Gower-street W.C.1).

On Monday evening last, MR. E. GUY DAWBER (Vice-President) occupied the chair at a general meeting of the Royal Institute of British Architects, held at No. 9, Conduit-street, W.1.

Obituary.

After the minutes of the previous meeting had been passed, MR. ARTHUR KEEN (Honorary Secretary) announced with regret the decease of the following members of the Institute:—G. C. Ashlin (Fellow), Past-President of the Royal Institute of the Architects of Ireland; E. G Fletcher (Licentiate); and Walter Stainer (Licentiate).

ARCHITECTURAL EDUCATION.

MR. THOMAS E. COLLCUTT then read a paper entitled "A Plea for a Broader Conception of Architectural Education," in the course of which he said architects had suffered and were still suffering, perhaps more than any other body of men, from the effects of war. The outlook was still gloomy, but students and yet more students were encouraged to enter the schools. Mr. A. J. Davis, in a recent lecture, pointed out that in the Ecole des Beaux-Arts the percentage of applicants ultimately admitted was 10 per cent.; those who did not pass had to enter some other calling. He understood a large proportion in our own schools were allowed to take the full course before finding architecture was not their bent. That was unfair to the student; it wasted years of his time, and was a handicap on his future—the schools had done him a wrong and were incurring a grave responsibility. He suggested that no student should be finally accepted unless he could show, on a short probation, that he had a peculiar native aptitude or tendency to architecture above any other calling. That "aptitude" should be ascertained by a body of examiners independent of the schools. Of course, such an examination should be confined to architecture; steel construction and perspective colouring should not be considered. What a rich store of valuable knowledge we should gain if this world could be visited by the shade of some Ninevite architect! What a fund of useful information he could give for the guidance of the student of to-day! And with what perplexity he would regard the portentous curriculum now presented in some of our schools! Having a full knowledge of the attainments of the old masters—say, down to the age of Wren—what an astounding revelation it would be to learn that an exquisite skill in geometrical drawing was considered as almost an indispensable means to an end! No doubt he would behold the students with pity, fearing their minds would become unhinged from too much learning.

It seemed to the speaker that principals of schools were not aware that almost all architects were wise enough to seek the advice of experts in steel construction, and in many cases in sanitary and electrical work—always, of course, with the concurrence of their clients. Only the rudiments of those trades ought to be considered in the schools. He confessed he had not been in touch with the education offered at the Architectural Association during the past eight or nine years; before that period he took pupils with the proviso that two years should have been spent in the drawing office (now an atelier) at the Association, and those pupils were among the very best he ever had. In those days he had great confidence in the Association, but he had since been painfully disillusioned as to its merits in the present day. The very last assistant to come to him emanated with credit from one of the schools, but he had no practical knowledge of the work he was required to do in his office. The speaker had to dismiss him summarily with his confounded theories.

With their permission he would remark on a lecture on the theory of architectural education delivered in Liverpool. He joined with Professor Reilly in his admiration of the clearness of expression and the keenness of intellect with which the lecturer [Mr. Lionel Budden; see *The Builder*, July 1, 1921] had expressed himself, but he viewed with apprehension the system of education that lecturer advocated, which appeared to be in vogue in many schools as well as in Liverpool. Throughout the whole curriculum architecture, as a fine art, seemed to be almost a secondary consideration. Yet, in spite of all the appalling range of studies set before the student, one could extract some amusement from the conclusions to which the lecturer arrived. For instance, there must be three grades in the practice of architecture: (1) the local practitioner, (2) the constructional expert, (3) the designer. To those add the arbitrator and the perspective colourist. He begged that those titles should be reconsidered. Mr. Budden advocated five years of study in all. A summary of studies suggested for the first three years embraced studio work, construction design, measured studies, history, archæology, theory of planning and design, applied geology, physics and mechanics, construction, materials, surveying, sanitation and hygiene, descriptive geometry, sciagraphy and perspective, and presentative technique and rendering.

The lecturer admitted that two periods of six months during the last five years should be spent in an architect's office!—and there they were—fully equipped to suck the blood of the first client caught in the web of theories and coloured perspectives. It was obvious to his "common sense . . . that omniscience nowadays is humanly impossible for any single member of the profession. . . He cannot become an ideal architect." It took nine men to make one tailor, but, thank the gods, only five students to make the ideal architect; hence his proposal to cut him into sections, *i.e.*, the practice of stereotomy—let them be scholastic!

On looking through some Liverpool prospectuses it was pleasant to find extremely good designs done by students who, having probably wisely ignored the greater part of the school curriculum, should, he presumed, be classed as expert designers. All those productions were for important public buildings, and were designed in what one might call a columnar style, having its birth in a great measure in the temples of the old world, while the general effect was imposing and pleasant, and in modern times quite appropriate in countries that were blessed with a brilliant atmosphere. But even in those countries the use of columns forming colonnades must be a serious obstruction to the light indispensable to the main building. Were the schools wise in requiring students to submit designs of palatial buildings? Should not the subjects be mostly of a domestic or business or a civic character, and on possible sites, sites they would have to consider in real practice? Important public buildings were not of everyday occurrence. Certainly not with the grand and terraced open spaces shown in their designs, adding a fictitious value.

A few months ago he had the good fortune to see several drawings of an imaginary restoration of a ruined city in Italy, the work of a student from the Liverpool School. Those drawings were awarded the Prix de Rome. They were admirable drawings, and were extremely interesting as showing how splendidly the old town must have harmonised with the beauty of the surrounding country, an accidental though happy result that could not have been conceived by the founders of the city. The beautiful curve to the High-street at Oxford was the result, probably, of an old roadway. The landscape showed the colouring student at his best, but the architecture, consisting of plain colonnades and indications of larger buildings, was happily designed. He confessed, however, that he could not see that that attempt at imaginary restoration could possibly aid the education of the architectural student, although it might be interesting to archæologists. Not only was the student not benefited by such exercises, but the public was dangerously misled. A drawing that was pleasing to the eye, well coloured, and artistically put down, gave to the untrained observer the impression that the architecture must necessarily be good. Works such as these were, to his mind, object lessons in how not to do it, but the Architectural Association seemed to be encouraging those regrettable and really dishonest practices. He could call to mind published drawings issued by that body where the foreground and background were the especial points of interest, being charming bits of black and white, the trees perhaps a little sloppy, but still having a good deal of artistic merit from a landscape painter's point of view. The architecture, which ought to be the centre of interest, was sometimes good, often indifferent, not seldom very bad.

In the A.A. curriculum there was a "third year" student's design for a gamekeeper's cottage with a perspective view. In the foreground of the perspective was a pool or "head" of water apparently flowing under an arch and under the cottage. On looking at the plan, however, one found that the pool was a stagnant one, stopped by a deeper wall of the cottage, that arrangement being contrary to all building by-laws and to the laws of hygiene. The picture was charmingly drawn and was a good bit of pen work, but the design for the cottage was really entirely commonplace and thoroughly suburban, and was, too, without evidence of any study of architecture. There were hundreds of gamekeepers' cottages scattered about the country, homely and picturesque, in harmony with their surroundings, and suitable for their purpose. Many of those, for instance, in the Cotswolds might be studied for their architecture—but evidently had not been. Who did not know them—with their dog kennels and a display of dead vermin crucified as trophies of vigilance?

He had no quarrel with the making of beautiful drawings, done truthfully, to represent as nearly as possible the form that thought, knowledge, and aspirations would take when one's ideas became facts. He advocated water-colour sketching from Nature as an aid to realising the beautiful.

The remainder of the paper was more particularly addressed to students, and, continuing, the lecturer said the schools could not offer to the student an education other than a mere exploitation by means of which he could earn his living. He was greatly daring perhaps in believing it possible a man might attain a broader education during his student days, an education "tending to the deepest good, intellectual and moral, to a purity of truth and a delicate perception of beauty." Gilbert Murray, speaking of Greece, said "Her great experiences were undertaken with the knowledge that success depended on the education of her citizens not only in efficiency but also in restraint and generosity and a high conception of the dignity and possibilities of human life ennobled and advanced by beauty, wit (*i.e.*, wisdom), intelligence, and, above all, by liberty." He asked students seriously to consider those lines. With the help of teachers and lecturers a way might be found by which they could train themselves

in the education thus suggested. They should aim at getting a good knowledge of sculpture and painting, and, under direction, should enter upon a course of reading. In training the faculty of observation, that was, in retaining a correct mental vision of some particular object, no teacher was required. Those studies could be followed during and after the preliminary work of the schools. By intelligent observation, first observing and then drawing from memory, they might learn and absorb more than by merely drawing from the object: for the latter might be done almost automatically. The two methods should be studied side by side, together with the important work of measuring and plotting old examples of architecture.

Students should visit the Acropolis, study it early and late in the day, and under varying atmospheres. Here was a golden opportunity for cultivating the faculty of observation, and a precious means of stimulating the mind to a sense of beauty and an appreciation of truth in art. When one saw the Parthenon, one's mind was gradually impressed by the thought that this culmination and crown of Doric architecture did not spring from the brains of its designers complete in truth and beauty "like Athena all armed from the head of Zeus." They had before them the temples that preceded their age; they arrived at absolute perfection by many and slow stages, and by observing the failures as well as the successes of their predecessors. It was by a true valuation of these that they reached their goal.

Students should especially study Doric flutings and compare them with those of the later orders: to the speaker the flutings of the later orders appeared a "falling-away" from the ideal, and tended to make the column look commonplace. The Parthenon impressed the beholder with being exactly the right size: it could be neither larger nor smaller. Since seeing it, he had ventured to question whether the grouping of the parts of Inigo Jones's beautiful Banqueting Hall would not have been enhanced if the building had been, say, one-third larger; that would have given opportunity for more wall space, perhaps on each side and above the window openings. It might be valuable to the student to make comparative studies in the proportion of this building. In studying old buildings they should keep an open mind and not be led away by a style that might be fashionable for the time being. They should not take it for granted that Inigo Jones was the father of English architecture, though he certainly must be considered the father of Italian architecture as practised in England. They should remember that they were heirs of the men who built our cathedrals and our manor houses. They should not consider all the old masters infallible. At Vicenza, Palladio's buildings, with the exception of the "Basilica" and perhaps one other building, were not altogether beautiful. It would almost seem "he had most carefully divested himself of all æsthetic sense." At Oxford the early work of Wren was not always successful.

It was generally accepted as a fact that the benign influence of Greek poetry and literature was traceable in the poetry and literature of all Western nations through succeeding ages down to the present. It had also been said that that benign influence was apparent in our architecture, and even in the very chairs we used. He confessed that, being ignorant of architectural history, it was difficult for him to find Greek influence either in mediæval or Renaissance buildings. But the subtle Greek mind, the Greek appreciation of beauty, might, he thought, be found in San Sophia, which was, of course, built by the Greeks.

During the past three or four decades there had been a revival of Italian architecture in America, as well as in England. We had picked up threads from Italian masters, before and after Palladio, and threads from our own masters. We had woven those threads, without due consideration whether they had the quality of beauty or not, into patterns or samples expressing some of the evils and some of the good pertaining to the old masters. Would that some master-mind would arise and teach us how to capture Greek thought as it first influenced Rome, pointing out where the Romans just missed the beautiful, and thus guided, we might in time achieve in our buildings something of fine art.

Young men might indulge in visions of a style born of tradition and adaptable to the new conditions, but their visions must be exalted; they must not be confined to the mere work they were engaged upon. "Weary of the past," we were hoping for a loftier, brighter, and simpler age bringing with it what Wordsworth prayed for: "plain living, high thinking and homely beauty." The self-education he advocated he believed to be right and sound.

Discussion.

MR. JOHN SLATER, in moving a vote of thanks to the lecturer, said he did not think it fair to blame the school system for individual inefficiencies. Was the proposal for the examination of students before they entered their career possible? Before they actually started their training, how was it possible to tell whether men were suitable for architects? It would be better if the teachers at the schools examined the students after they had received from six to nine months' training, and uncompromisingly warned off the course those who had obviously mistaken their vocation. With regard to the pretty pictures with which the students surrounded their designs, he did not think that was much to be deprecated, for it was necessary that a student of architecture should have a taste for the beautiful. It had to be borne in mind that architectural education had barely attained its majority in this country, and they should look at the effects of systematised education in countries where it had been in vogue for a long period. France was the first country to organise architectural education, and it had to be admitted that the public buildings in that country in the seventeenth century, which were due to the training of architects, were very fine. America had a more comprehensive system of education that we had, but had the results been bad? The schools did not pretend to turn out at the end of five years architects who were prepared to practise every branch of architecture, for before a man could hope to practise architecture at all he should spend some time in an architect's office. But, granted their limitations, the architectural schools did a great deal in guiding the students in the right direction, and the opportunities afforded of seeing the work of others must be a benefit to them.

The vote was to have been seconded by SIR REGINALD BLOMFIELD, R.A., who was absent owing to indisposition. In a written contribution to the discussion, he said many architects were alive to the defects in the educational system touched on by the lecturer, such as the excessive attention to mere draughtsmanship and its tricks, the neglect of ordinary building construction, and the search for the grandiose instead of the search for the exact adjustment of means to ends and the elimination of the unessential, which was after all the real business of the architect. One should not be too hard on the schools for failing to achieve the impossible; one would only suggest that they should study more closely what an architect had to do and how best to do it.

MR. ERNEST NEWTON, R.A., also contributed a written contribution, in which he expressed the opinion that the ideal system would probably be a combination of school and office work.

SIR ASTON WEBB, P.R.A., said the number of students at present entering the architectural profession was a very serious thing indeed, and he did not know where they would all find employment. He thought it quite proper that at the beginning of their training students should be taught to design big buildings, even although they might never be called upon to carry out such works, because it was important that students should be encouraged to see the bigness of things first. If that were done, students would see the "bigness" of a building, however small; for it was possible, and desirable, to get "bigness" in small things. He entirely agreed with the lecturer as to the necessity for training students to be observant.

MR. EDWIN T. HALL said he would like to appeal for the better education of the public in architecture, as it was very important that there should be a cultured public to appreciate the work of architects. He also agreed with the lecturer as to the importance of training students in observation, and strongly recommended the practice of sketching and travelling whenever possible. He could not imagine anything more deadly than the suggestion referred to for dividing architects into the three classes of local practitioners, experts, and designers; an architect should have a general knowledge of everything connected with building if he wished to be a master-craftsman. Beautiful drawings were admirable, but they were not necessarily architecture. Students should be taught to design large buildings; but they should also be taught to design small buildings of the sort that would be likely to form their future practice. He thought the Architectural Association was on the right lines, and was doing excellent work.

PROFESSOR BERESFORD PITE said it was very necessary that broad and long views should be taken in architectural problems. If they reviewed the progress of English building during the past century, beginning with the extraordinarily academic and correct work of the Neo-Grec school, and the enthusiastic work of the Italian school, and the marvellous accomplishment of the Gothic school, he thought they must hesitate before they denounced the methods by which those results were arrived at and sacrificed those methods to mere programmes of education. He thought the time was ripe for the Institute to organise a conference on the very important question of architectural education and review the course being adopted at home and abroad. His impression was that the present tendency was to become too academical, which was unsuited to the English nature.

PROFESSOR C. H. REILLY said the real point about the schools seemed to be that there was a tradition of great enthusiasm in English architecture down to the 'sixties or 'seventies, but that in the later period that enthusiasm abated. It seemed, therefore, that if there was to be a revival of tradition the younger men should come together in schools to see if knowledge could replace the faith that was lacking. Schools not only served in producing enthusiasm and knowledge, and also acted as a sieve by weeding out those students who were not fitted to practise architecture. He thought that the schools would raise the general level of taste, and prevent blunders from being made. The schools had only been in existence for some twenty years, and it was really too early yet to judge the results of their training.

MR. W. N. ADAMS said he would like to put in a word from the students' point of view, and say that while they were perfectly satisfied with the schools, they were not satisfied with the offices of practising architects which they entered after leaving school, where they were often not given a real chance.

MR. H. M. ROBERTSON, referring to the suggestion that had been made that the schools were responsible for attracting large numbers of men into the profession, said so far as he could ascertain the number entering the profession now was not larger than the number which entered it before the development of the schools. At the Architectural Association Schools the practice of spending a lot of time on backgrounds to designs had been practically eliminated, but they did encourage pretty drawing.

In putting the vote to the meeting, the CHAIRMAN said from figures available it appeared that the number of students being trained in architecture at the present time, including those in the schools, technical colleges and offices, was about 2,000.

The vote of thanks was heartily accorded, and the meeting terminated.

WATFORD PEACE MEMORIAL HOSPITAL COMPETITION.

CONSIDERABLE interest has been aroused by this competition. It is proposed to erect a new hospital on the splendid site which has been secured in the Rickmansworth-road. The Hospital Committee was fortunate in having obtained the services of Mr. William A. Pite, F.R.I.B.A., to draw up the conditions and to act as their assessor. It is therefore not surprising to find that these conditions offered considerable scope for the ingenuity and skill of hospital architects to indicate a further stage in the development of such important buildings, and some unusual features are presented in several of the twelve designs which have been submitted. The result of the competition was announced in our issue of Dec. 9, and the design placed first prepared, by Mr. Wallace Marchment, Lic.R.I.B.A., was illustrated therein, and further illustrations of this design are given this week.

The conditions were lucidly set forth, and clearly expressed the desire of the Committee for a hospital of 52 beds, with provision for extension in the future to 100 beds. The need for economy in outlay and administration was specially emphasised.

Many interesting plans have been submitted by the competitors, some of whom are recognised as experienced in hospital design, but all have failed, with perhaps two exceptions, to produce economical schemes. Every unnecessary foot of space added to such a building beyond the exact requirements naturally adds a correspondingly additional burden of annual expenditure in maintenance and administrative costs, a most serious consideration for hospital management to-day. Why, then, has this fact not been fully realised by competitors, most of whom must be aware of the financial difficulties experienced by all hospital authorities throughout the country to-day? The selected scheme we understand, is estimated to cost approximately £55,000, but most of the other estimates presented were considerably higher than this figure, even ranging up to £86,000. The difference in these sums may be said to represent the cost of waste cubic space—an impossible liability for an institution of this character to accept. Mr. Marchment is to be congratulated upon his skill; his plan clearly illustrates the scope and extent of the hospital implied by the conditions, and shows that the problem set was capable of a direct and simple solution.

Competitors were faced with the question of having to decide whether the wards should be placed with their long axes parallel with or at right angles to the Rickmansworth-road, owing to the line between due north and south cutting across the site in a diagonal direction. This seems to have baffled most of the competitors, and a strange assortment of plans resulted. The premiated scheme has solved the many difficulties in an extraordinarily sure way. The plan is compact, with all the administrative sections centralised, and indicates considerable detailed knowledge. The wards have been arranged in dual formation under the control of one sister, with common service-rooms and a single duty-room. The absence of the usual detached sanitary towers will be noticed with considerable interest; also Mr. Marchment's clever plan to meet the suggestion which, we understand, was formulated in the conditions in order to provide an adequate "cut off." These detached towers have long proved an obstruction to clear hospital planning; they block sunlight and prevent air circulation to a considerable extent, so that if with the improved sanitary conditions of to-day these can safely be dispensed with, a welcome advance will have been made and a further development marked in hospital design. Attempts have already been made in this direction, and we know of one important hospital in London where the sink room and patients' lavatories have been brought into the body of the main building and entered from the ward corridor by means of a small lobby. This has had rather unfortunate results. In the future ward block we notice that the cut off provided for access to the sink-room and patients' lavatories serves also as the entrance lobby to the ward unit from the main corridor. This, no doubt, will be reconsidered. We should like to commend to some of the other competitors the methods adopted in this scheme of providing for the future extensions with the minimum of interference to the hospital working. Some of the designs submitted provide extensions by building over at the first floor level—an impracticable proposal which should never be entertained if possible.

Architecturally, the premiated design possesses charm, the drawings are sincerely and tenderly rendered, and should prove of considerable educative value. The elevation of the administrative block to Rickmansworth-road is full of interest. The usual competitive trick draughtsmanship is absent in this set, for which we are very grateful, and we feel the design has been drawn with the full intention to build—not merely to provide a drawing or diagram on paper. There are many fine old brick buildings in and around Watford, and we are sure this will take a high place among them. The public and memorial character of the building has been well maintained, a point which has been overlooked by many of the competitors.

The design (No. 5) placed second, by Mr. Alan E. Munby, is in general outline planned on somewhat similar lines but without the same considerations of economy. For instance, the dual wards are arranged for men and women on the same floor, so that all the sanitary offices have to be duplicated, a very serious item of expenditure. The proposal to cover practically the whole building by extensions in the future appears to us to be wrong in practice, and could not be undertaken without putting wards out of action for a considerable time. A detached nurses' home is provided.

The design (No. 8) placed third is that submitted by Messrs. Ashley & Winton Newman, and shows an interesting scheme with the ward blocks facing Cassiobury Park, as indicated by the diagram on p. 845. The various units are scattered, and the boiler-house is somewhat remote. The dual wards are interesting, but are spoilt at the southern ends by antiquated sanitary towers which block the most important sunshine at that end. The alternative day-rooms are to be preferred.

Design No. 2, by Messrs. Greenaway & Newberry, shows a series of one-story dual ward blocks occupying the whole length of the site. The wards are well planned, except that two beds in each ward are without windows. The elevation to the main road is hardly suitable for a public memorial building of this character.

Design No. 3, by Messrs. Moore & Durst, is novel in plan, but in the present scheme the wards are placed in an L-shape block on the second and third floor levels, with the administration offices, &c., beneath. The ward unit is well devised.

Design No. 4, by Messrs. Kenyon & Livock, is an excellent scheme, with wards to the south-west overlooking Cassiobury Park, but with the fatal error of not providing a front to the main road. The plan is well-thought out and shows an interesting attempt to solve the sanitary annexe question by the provision of a cross-ventilated lobby intervening between the ward and the administrative ward offices. The architectural treatment is well managed and reasonably suited to a building of this type.

Design No. 6, by Messrs. Burnet, Son & Dick, is a monumental and expensive project. The well-planned theatre unit should be observed—somewhat on the lines of the German operating house.

Design No. 7, by Messrs. Jones & Elcock, provides an interesting plan, but with the ward marked "X" (see diagram) overshadowed by the ward planned at right angles to it. The extensions are provided for by building over at the first-floor level. The kitchen appears somewhat remote, and we notice single bed wards, &c., opening direct from a main service corridor—a practice to be avoided.

Design No. 10, by Messrs. Murrell, Pigott & Lowry, provides for a great array of wards facing Cassiobury Park and occupying the greater part of the site. The elevations are fresh and interesting. The plan in detail possesses many little points of interest, and indicates considerable knowledge of hospital requirements.

Design No. 11, by Messrs. Saxon Snell & Phillips, shows the wards planned as single-story buildings, with the main hospital corridor placed down the centre of the site and passing through the several units. It is not a compact plan or an economical scheme.

Design No. 12, by Messrs. Forsyth & Maule, provides a quadrangular plan with the kitchen and servants' quarters in the centre. The several units appear to be needlessly disconnected and remote from one another. The extensions are judiciously arranged.

The result of the competition is without question an eminently satisfactory one in all respects. Although the building will be comparatively a small one in extent yet it will play its part in the evolution of hospital planning in the near future. We have examined the conditions with considerable care; they are brief but clear and definite in their purpose, with suggestions for development, and we note with pleasure the unusual freedom from restraint given to the competitors concerning the preparation of the drawings.

The small thumb-nail diagrams on p. 845 will focus in a comprehensive and comparative way the several plans submitted.

SOCIETY OF ARCHITECTS.

THE following notes are from the minutes of the Council of the Society of Architects:—

ART AND LITERATURE COMMITTEE.—Mr. Percy B. Tubbs has been re-appointed Chairman of this Committee.—The re-cataloguing of the library has been completed, and the question of the issue of a revised catalogue is in hand.

PRACTICE COMMITTEE.—Mr. Thomas Wallis has been appointed Chairman, and Major C. F. Skipper Vice-Chairman, of this Committee.—The report of the Scale of Charges Sub-Committee on its meeting of November 30 with representatives of the R.I.B.A. was received. Certain points raised by the Society, relating principally to bringing similar scales of other professional bodies and Government departments into line with the architects' scale, have been discussed, but it has not been thought desirable to amend the scale at present. The question of housing fees has not been discussed in this connection.—An invitation from the R.I.B.A. to appoint representatives to confer on the subject of the Regulations of Architectural Competitions was accepted, and Messrs. Thomas Wallis, H. M. Robertson, and the Secretary (Mr. C. McArthur Butler) were appointed to attend the conference.

FINANCE COMMITTEE.—Mr. George H. Paine has been appointed Chairman of this Committee.

UNIFICATION AND REGISTRATION.—A report was received from the Honorary Secretary of the Unification Committee, dated November 17, outlining the course of events since the last official reports had been published. It appeared from the present report that there was a possibility of the resumption of negotiations between the Conditions of Membership Committee and representatives of the Society in the near future.

NATIONAL BUILDING CODE.—From the report of the Society's delegates present at the conference on November 21, it appeared that certain resolutions of the conference had now been accepted by all constituent bodies, and that the President of the Society (Sir Charles T. Ruthen) had been appointed to represent the Society in carrying proposals further in approaching the Government on certain aspects of the case.

ANNUAL GENERAL MEETING.—It was decided to hold the Annual General Meeting of the Society on January 12, at 8 p.m., the meeting to be followed by a discussion (to be opened by the President) on "The Cost of Building."

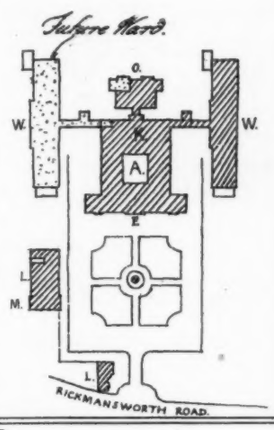
WATFORD PEACE MEMORIAL HOSPITAL COMPETITION

DIAGRAMS ARE NOT TO SCALE

A ..... Administration.
B ..... Boiler House.
C ..... Children's Ward
E ..... Entrance.
H ..... Nurses' Home.
K ..... Kitchen.
L ..... Laundry.
M ..... Mortuary.
O ..... Operation Th.
W ..... Ward Block.

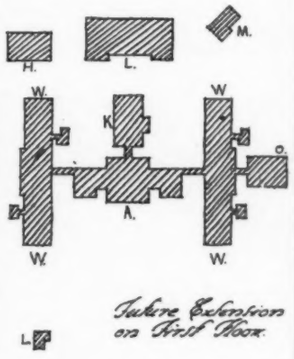
(9) WALLACE MARCHMENT. Lic.R.I.B.A.

1ST. PREMIUM.



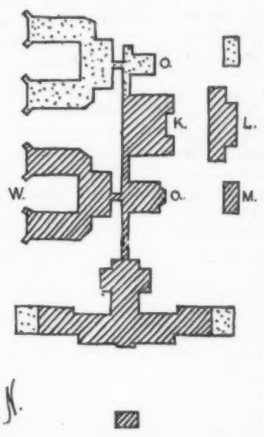
(5) ALAN E. MUNBY. M.A., F.R.I.B.A.

2ND. PREMIUM.



(8) ASHLEY & WINTON NEWMAN F.F.R.I.B.A.

3RD. PREMIUM.



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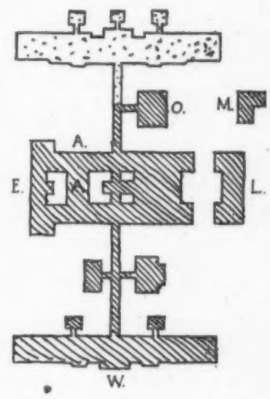
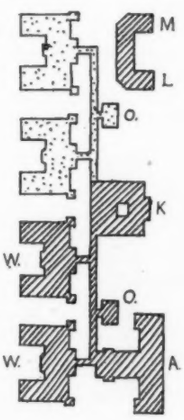
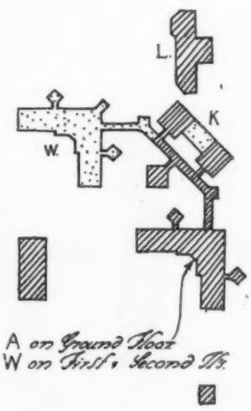


(2) GREENAWAY & NEWBERRY.



(3) MOORE & DURST.



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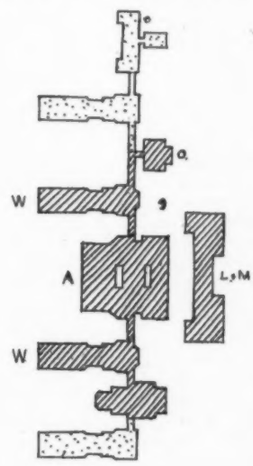

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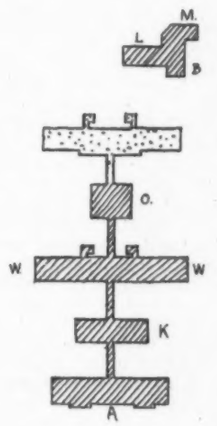

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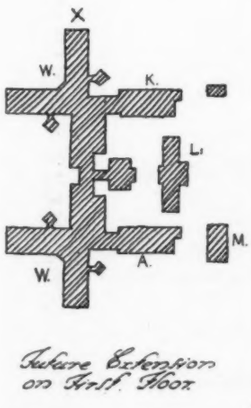
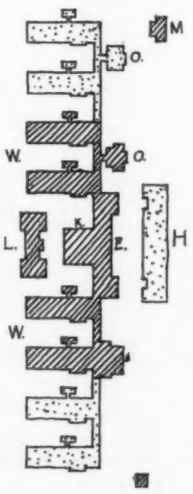
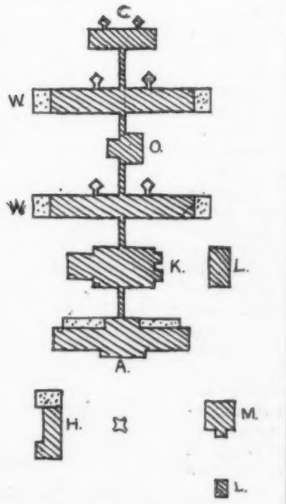


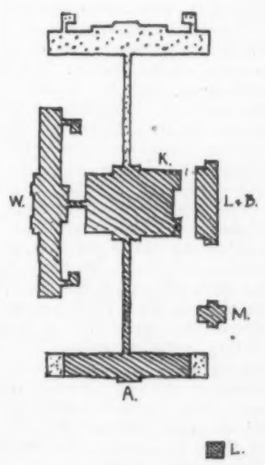
(10) MURRELL PIGOTT & LOWRY.



(11) SAXON SNELL & PHILLIPS.



(12) FORSYTH & MAULE.



ARCHITECTS AND NATIONAL TASTE.

THAT the English architect of to-day is necessarily a dictator of taste, was a point made by PROFESSOR C. H. REILLY, of the School of Architecture, Liverpool University, in a paper on "Architects and National Taste," which he read before the Birmingham Architectural Association on December 16.

In the ages of faith, which extended almost down to the time of our parents, the lecturer said there was no doubt in men's minds as to the style in which a building was to be erected. With the industrial revolution, however, there rose to power and place, especially in the north of England, a mass of people who were not educated in anything except the making of money. To such people the restraints which any sort of style imposed were unknown. In their ignorance they felt free to exercise any whim or fancy they cared to pay for, and, with the increasing power of money, architects were found ready to carry out their commands. There was no safeguard against the importation of any exotic idea from overseas or the revival of any past style, however inappropriate. In these days a point had been reached when the fact that a new bank, library, or town hall was to be built in a country town appeared as a real danger to the town, so little confidence had we that it would not be an eyesore.

With no public taste to control the architect, and with clients who were satisfied with whatever was put before them, provided the architect had a reputation for honesty and the right initials after his name, obviously the whole onus rested with the architect. He nowadays was the director of taste. His responsibility to the community was greater than it had ever been, because within the conditions of expense at his disposal he was to-day a practical autocrat. It was extremely rare to find a client with any definite ideas as to what he wanted in the matter of style. If he asked for Tudor, he would probably be equally pleased with some modern version of Georgian. He (the speaker) knew of a case of a well-known modern architect and a noble client, where the latter asked for a Jacobean house and received a Pompeiian one, and was delighted with it. The position of the architect to-day, if he had any civic conscience, was one to tremble at. In his hands alone lay the form, features, and expression of modern towns, as well as the power of preserving or destroying the character of old ones.

Turning to the question of how the modern architect had fulfilled his trust, Professor Reilly made some interesting comparisons with contemporary architectural work in America. Perhaps it was due to her size, perhaps to the multiplicity of races that went to make up her common stock, that America did not seem to be swept, as our country has been, by fashions set by individual contemporary architects. There was nothing in America to correspond with the case of Norman Shaw in this country. American architecture had been in the past thirty years less self-supporting, less sufficient, and less insular than our own. The American architect deliberately sought his inspiration in the work of the Italian, French, and Spanish Renaissance, and not in any popular version of them that an individual architect might have brought about. He had his library of authorities, where British architects too often had been content with volumes of plates from the technical papers. The result was a much purer and more stable architecture. The American architect's problems were so different from those of the old world that he was forced to think and invent. In architecture it was we who spoke the slang, not the Americans. One had no fear that Fifth-avenue would at any moment be spoilt by a glazed terra-cotta building, with grotesque German detail; yet who could say the same of Oxford-street or the Strand, or any other leading London thoroughfare? In America the architect was apparently just as much a dictator of taste as in England, but there he appeared to realise his responsibilities more clearly.

COMPETITION NEWS

Bengal Council Chamber.

Fifty-three designs were submitted in connection with the Bengal Legislative Council Chamber Competition, and the following awards have been made by the assessor, Mr. Henry A. Crouch, F.R.I.B.A., Consulting Architect to the Government of Bengal:—

First premium (£500).—Mr. John Greaves, Calcutta.

Second premium (£250).—Messrs. Massey & Morgan and Messrs. Armstrong & Dawson, London (joint architects).

Third premium (£100).—Messrs. Forbes & Tate, London.

Cairo.

The designs of the following six competitors have been selected in the Preliminary Competition of the Cairo Hospital Competition:—

Mr. J. R. Truelove, A.R.I.B.A., c.o. Imperial War Graves Commission, St. Omer.

Messrs. Cackett & Burns Dick, FF.R.I.B.A., Newcastle-upon-Tyne.

Messrs. W. & T. R. Milburn, FF.R.I.B.A., Sunderland.

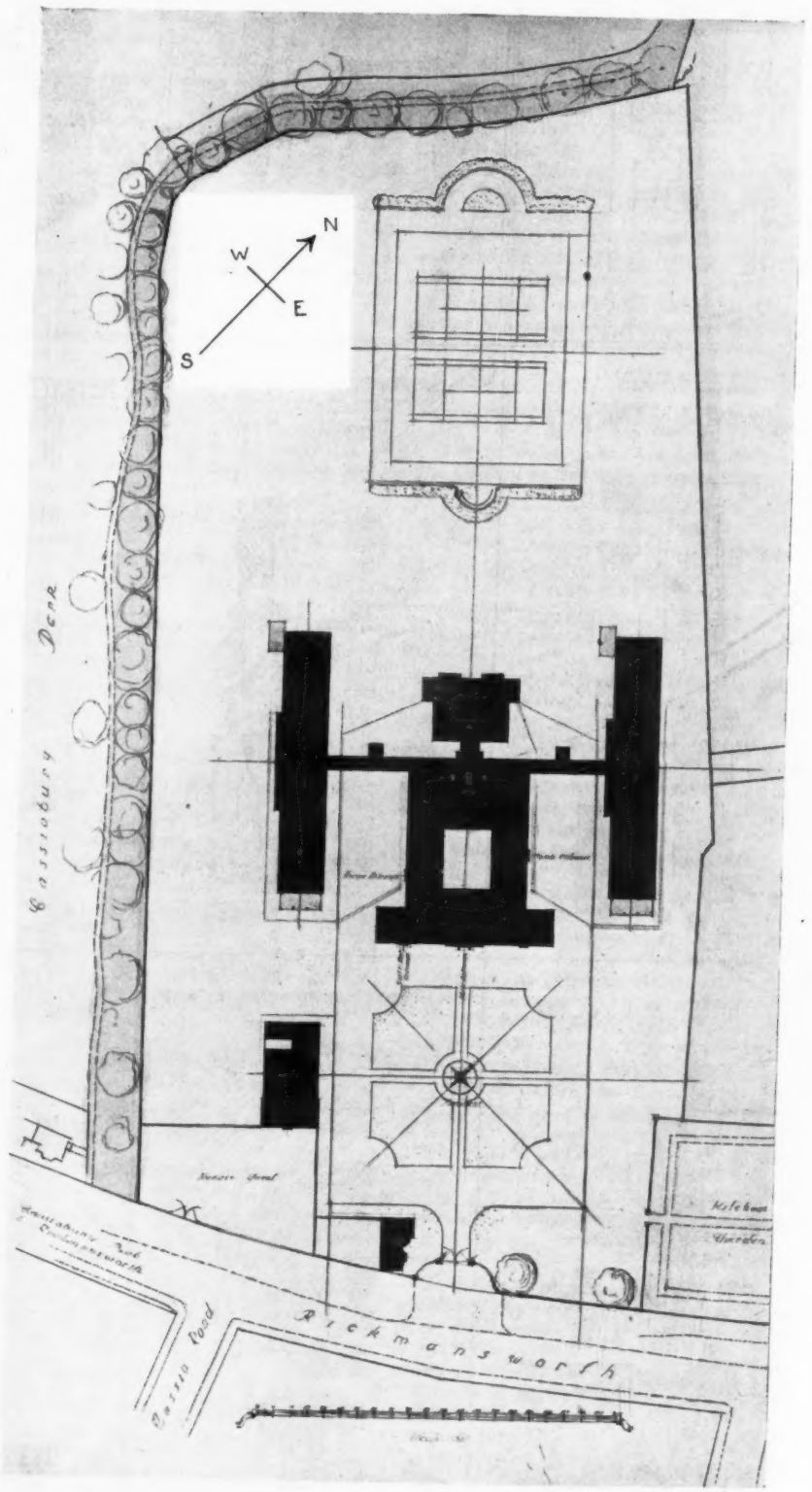
Messieurs Pierre & Louis Guidetti, Paris.

Messrs. Lanchester, Rickards & Lucas, FF.R.I.B.A., and T. A. Lodge, A.R.I.B.A., London.

Messrs. Nicholas & Dixon Spain, FF.R.I.B.A., London.

Other Competitions.

Other competitions still open include: Seaford lay-out (Sending-in date, Jan. 23); Truro memorial (Jan. 21); Kirkcaldy memorial; Auckland memorial (May).



Watford Peace Memorial Hospital Competition: Lay-out Plan.
First Premiated Design, by MR. WALLACE MARCHMENT, Lic.R.I.B.A. (*See p.* 844.)

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ILLUSTRATIONS.

Proposed Public Swimming Baths, &c., Liverpool.

The working drawings and specification were completed in 1915, but owing to the war the building was not carried out. The site is part of the old Georges Dock (the bottom of which is 30 ft. deep from the surface), and is between the new Dock Board Offices and the Railway Viaduct.

Largely owing to the initiative and advocacy of Councillor David Jackson, the Council desired that these baths should be in advance of anything previously built in England, and worthy of Liverpool and the adjoining fine buildings at Prince's Pier. To this end, the architects visited and inspected several bath establishments in Germany in company with Alderman Roberts (Chairman of the Baths Committee), Councillor Jackson, and the late Mr. Thomas Shelmerdene (Corporation Architect). In particular, it was desired to study the provision made in German baths for enabling (and, indeed, compelling) bathers to wash all over before making use of the swimming pond. In this country it is usual to provide a few cold showers which may be used at the pleasure of the bather. In Germany, there are generally upwards of a dozen showers (hot and cold) and as many foot baths, which bathers are compelled to use. It is curious that England should be behind Germany in this very important respect. In Germany, the "compelling" is done simply on the order of the bath attendant—usually a retired non-commissioned officer, but with our freedom-loving and less disciplined countrymen it was necessary to devise an additional check. Accordingly, the entrances to the dressing-boxes at the bath level are from a corridor at the back. The doors into the bath hall itself would be opened only from the bath side, so that the bather could not go straight into the bath hall; he would have to walk along the outer corridor and pass through the cleansing rooms, where an attendant would be stationed to see that he used the washing apparatus. Thence he would pass to the bath hall and, after bathing, direct into his dressing box.

As the effective height of the baths is practically level with the roadway, it was thought advantageous to build office buildings above, at the north and south ends, approached by separate entrances. Two swimming ponds are provided, that for men being 110 ft. by 40 ft., and that for women being 75 ft. by 40 ft. There are 136 dressing-boxes for men around the swimming pond and in two galleries, and 98 for women.

It was proposed to fill the swimming baths with fresh filtered sea-water. At Liverpool the tide rises nearly 30 ft. from low-water level, and there is a huge reservoir under Brunswick-street with direct connections to the Harbour, from which the water would flow by gravity to the powerful pumps. At the end of each bath a wide "wave" trough connected to the pumps would provide a continuous cascade of water to keep the surface of the ponds fresh and clean. The baths would be emptied at low tide, but the soil drainage would be pumped up to the level of the sewer.

There are 16 shower-baths and 10 foot-baths for men, and 10 showers and 8 foot-baths for women. A small number of warm (slipper) baths is provided (6 for men and 6 for women); also a Russian bath (with eight couches), which is so placed as to be available for either men or women.

Externally, the buildings were to be faced with Portland stone. Internally, the bath halls were to be faced with Shaw's "Marmola" ware, a dull, white-glazed terra-cotta. The bath ponds and bottom were to be of white glazed tiles, and the footways of encaustic tiles with Hopton-Wood curbs. The woodwork throughout was to have been oil-polished teak. The roofs were to have been of reinforced concrete, covered with asphalte. Hartley's glass in lead-covered steel bars was to have been used.

The swimming baths, Russian baths, &c., and the whole of the buildings generally below the ground level, including the whole of the steelwork, were designed by Mr. Alfred Saxon Snell, F.R.I.B.A., of London, and the entrances, office buildings, and elevations by the late Thomas Shelmerdene, F.R.I.B.A. (Corporation Architect). The late W. R. Court, A.M.Inst.C.E. (Corporation Baths Engineer and Chief Superintendent), contributed his valuable experience to the arrangements. The engineering scheme was designed by Mr. William Binny, A.M.Inst. C.E., of Teddington, Middlesex. The cost of the baths building was estimated at £50,000 and the office buildings at £23,500.

Santa Sophia.

The sketches of Santa Sophia are by Mr Wilfrid I. Travers, O.B.E., F.R.I.B.A., who writes:—

"The history of the great Church of the Holy Wisdom, in Constantinople, needs no repetition. The two sketches show it as it is today. The great globe in the corner apse is a solid marble water vase some 6 ft. high, from which the faithful may draw water to wash their feet. I have deliberately omitted the carpet and certain Turkish fittings, one of which entirely obscured the view of the main western end. The reason for this omission is that the effect of these fittings and of the rectangularly divided carpet is most confusing to the eye, as whereas the building has the orientation of a Christian church, the carpet and fittings are orientated on Mecca, and so are all slightly askew to the walls. The resultant effect is such as to worry the most proficient perspective artist."

The All-Indian Victoria Memorial.

Twelve 15 ft. panels have just been completed by Mr. Frank O. Salisbury, to commemorate historical incidents in the life of Queen Victoria (six of which we illustrate in this issue), and are in position in the Central Hall. They are lighted by a diffused light from the great dome, the lighting being so arranged that no direct shafts of sunlight can disturb the whole effect of the interior scheme.

The artist was given liberty as to the subjects that should represent the remarkable Victorian era, and his sketches and complete scheme were approved by H.M. the King and the Indian Committee. His Majesty has given the artist very valuable criticism and help during the progress of the work, placing the pictures and sculptures in the Royal collection at Buckingham Palace, Windsor Castle, and St. James's Palace at his disposal. In a work of this nature a considerable amount of historic research is entailed. The British Museum, London Museum, the National Gallery, the Guildhall Library and Art Gallery, the India Office Library, the Royal College of Heralds, the Houses of Parliament, Westminster Abbey St. Paul's Cathedral, and by no means least the State Chamberlain's Ceremonial Department at St. James's Palace, all in turn rendered to Mr. Salisbury their historic facts and information. The treatment of colour is simplified in a decorative way to suit the setting—red, gold, black, and blue constituting the main harmonies. The four central panels facing the four entrances to the hall are distinguished by gold leaf in the background and accessories. This relieves the panels of any monotony, and gives emphasis to the four most important subjects. As one enters the building the first subject that strikes the beholder is that entitled "Empire." Here Britannia, slightly bronzed in colour, stands upon a globe with the British Lion and the Tiger of Bengal held in leash by a ribbon of the Orders of the Indian Empire, while representatives of the picturesque Indian Army salute Britannia. They bear banners, and the colours of H.M. King George. The inscription in the surround of the gilded background is "Dominion, Power, Loyalty, Fidelity, Freedom," while in the wreaths in the corner on the left are the Royal Arms and on the right the Union Jack surmounted with the Star of India. The first centre of historical sequence on the left is "The Coronation at Westminster Abbey," while opposite is the third centre entitled "The Apotheosis." Here Queen Victoria is enthroned in the zenith of her power as Queen and Empress, apparelled in her robes of State, bearing orb and sceptre, regally crowned, and seated upon the famous throne so well known in history. On the canopy are the Royal Arms. The Queen is supported by the figures of Justice, Knowledge, Truth, Fidelity, and Freedom.

The last centre is devoted to the lying-in-state—"Victoria the Good, having Served Her Country, Resteth from Her Labours." The Imperial robe and the embroidered pall cover the bier, upon which are seen the crown, orb, and sceptre. Bronze candlesticks stand at each corner. The Cross and Union Jack support the group. Gentlemen-at-arms keep watch with inverted halberts, while Britannia brings in tribute a sheaf of lilies intermingled with the lotus lilies of India. The laurel wreaths encompass (on a field of red and white) the hour-glass with the sands beginning to run in 1819, while the opposite side on a field of black and white the sands have run out in 1901. The other subjects speak for themselves.

The other frescoes are:—"Princess Victoria Called to the Throne, June 20, 1837"; "The Prorogation of Parliament, July 17, 1837"; "The First Visit to the City of London, November 9, 1837"; "The Marriage at Chapel Royal, St. James, February 10, 1840"; "The Proclamation of Her Majesty as Empress of India, January 1, 1877"; "The Diamond Jubilee Service at St. Paul's, June 22, 1897."

Illustrations of the Memorial, the architects for which are Sir William Emerson, F.R.I.B.A., and Mr. Vincent J. Esch, F.R.I.B.A., F.S.A., were given in our issue for December 2.

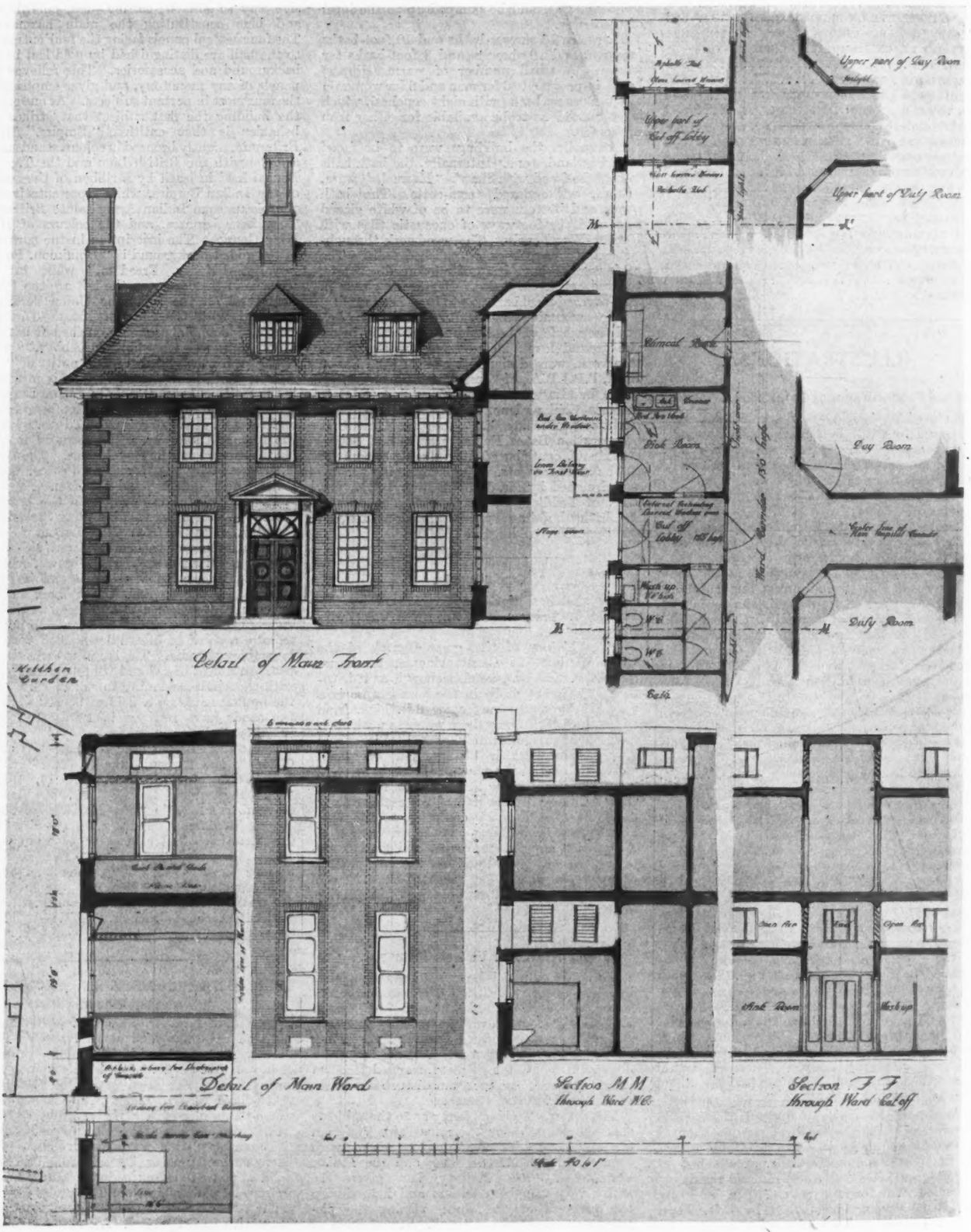
MANCHESTER SOCIETY OF ARCHITECTS.

Annual Dinner.

The annual dinner of the Manchester Society of Architects was held at the Queen's Hotel, Manchester, on December 13, under the presidency of Mr. A. W. Hennings. Among those present were the Lord Mayor of Manchester (Councillor E. D. Simon), Sir Henry Miers (Vice-Chancellor of Manchester University), and Mr. Paul Waterhouse (President of the R.I.B.A.).

Referring to his work as Chairman of the Manchester Housing Committee, Mr. Simon paid a tribute to the exceedingly valuable advice received from architects. There was no particular reason why Manchester should not be as attractive as Dusseldorf. Architects could help in that direction, and among other ways by insisting upon the installation in houses and other buildings of smokeless heating apparatus.

Dr. Worthington spoke in praise of the School of Architecture which had been established at Manchester University, and which he felt was going to do great things in the future.



Watford Peace Memorial Hospital Competition : First Premiated Design.

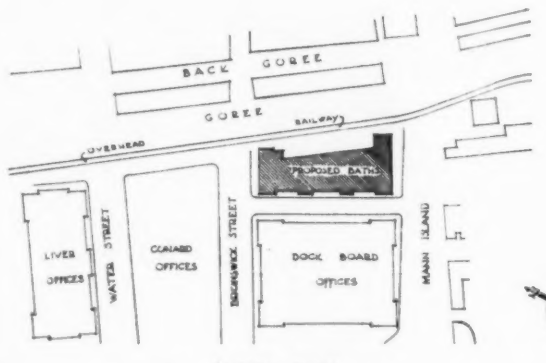
By MR. WALLACE MARCHMENT, Lic.R.I.B.A. (*See p.* 844.)

[Other illustrations of this design were given in our issue for December 9.

SKETCH IN CONSTANTINOPLE. BY MR. WILFRID I. TRAVERS, O.B.E., F.R.I.B.A.

CITY of LIVERPOOL

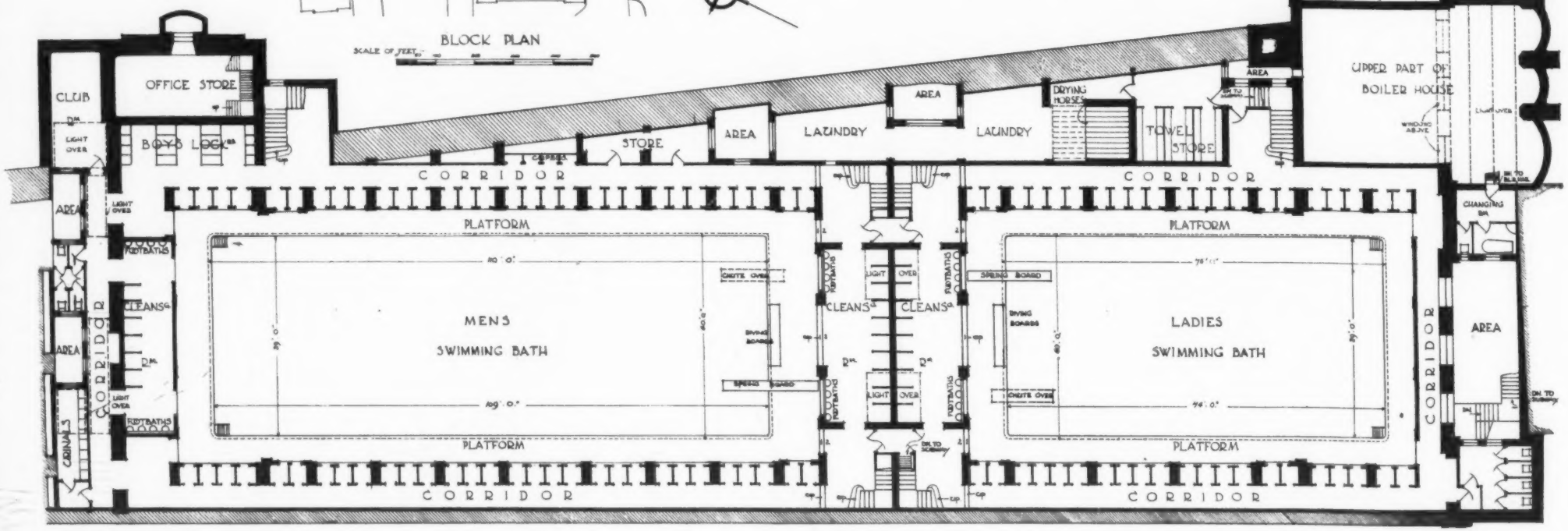
PROPOSED PIERHEAD BATHS



BLOCK PLAN

SCALE of FEET: 0 10 20 30 40 50 60 70 80 90

NOTE: HATCHED PORTIONS DENOTE OLD DOCK WALL.

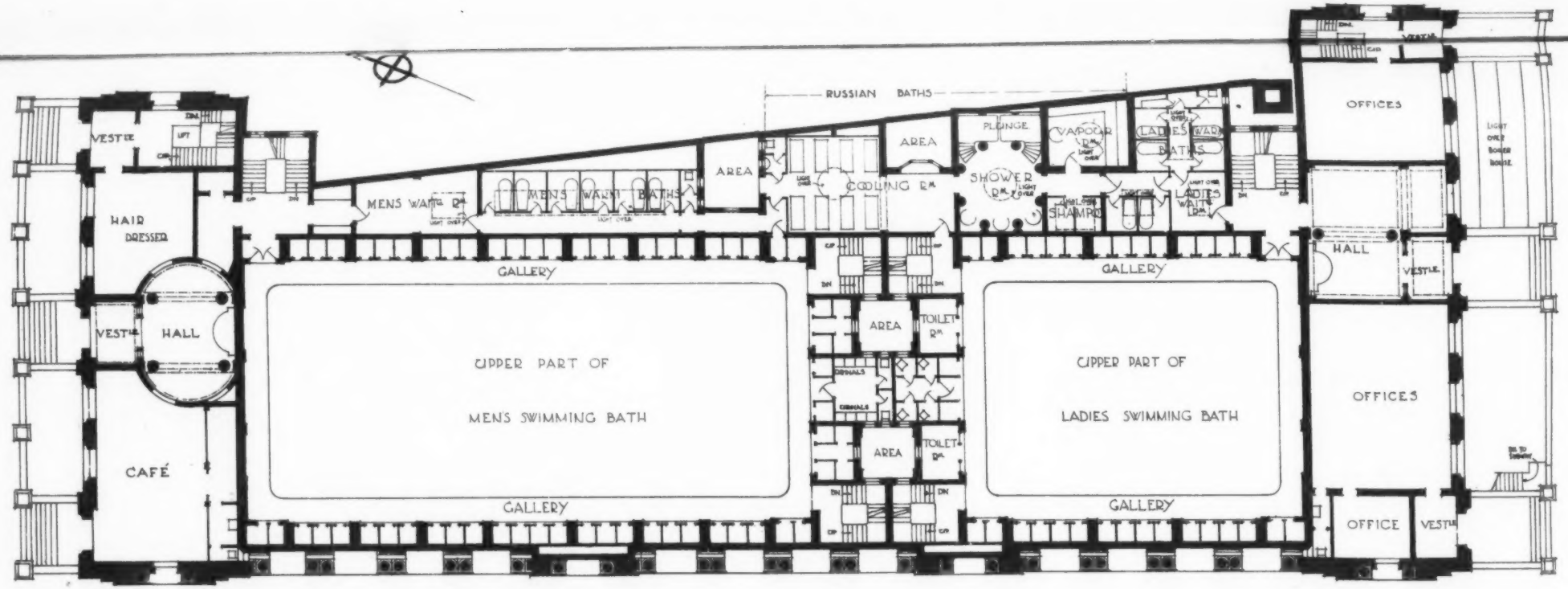


BASEMENT PLAN

ARCHITECTS
ALFRED SAXON SNELL, FRIBA, LONDON,
AND
THE LATE THOMAS SHELMERDINE, FRIBA, LIVERPOOL.

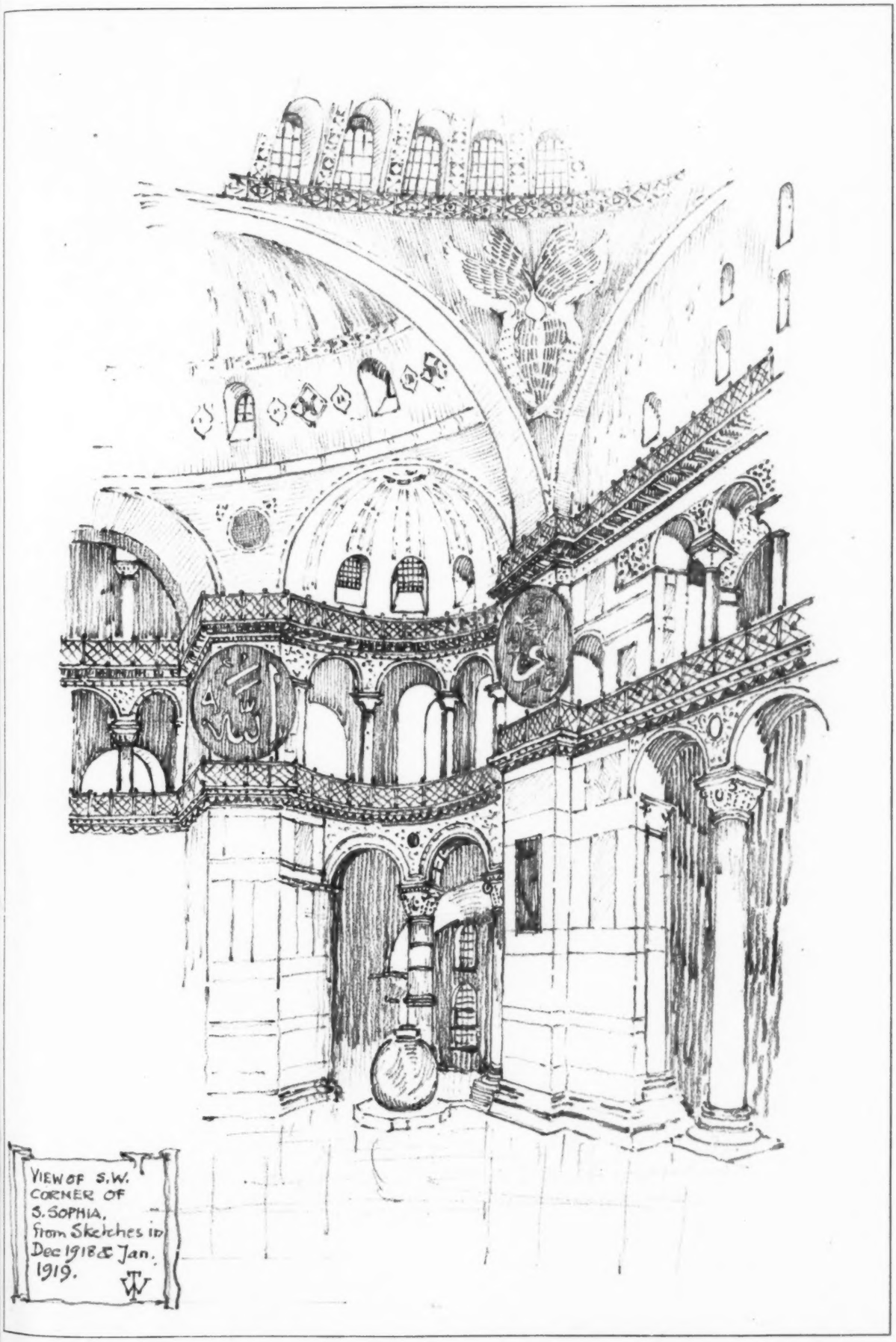
THE BUILDER. DECEMBER 23, 1921.

THE LATE THOMAS SHELMERDINE, FRIBA, LIVERPOOL.

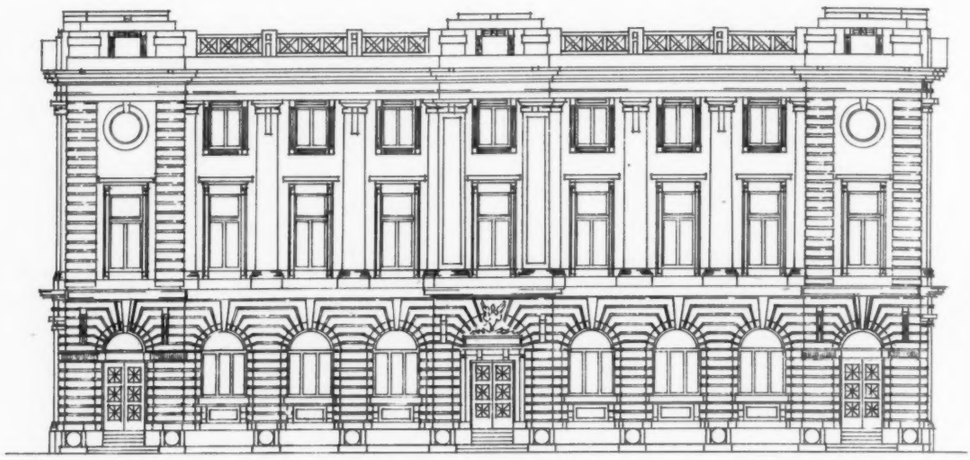


GROUND FLOOR PLAN

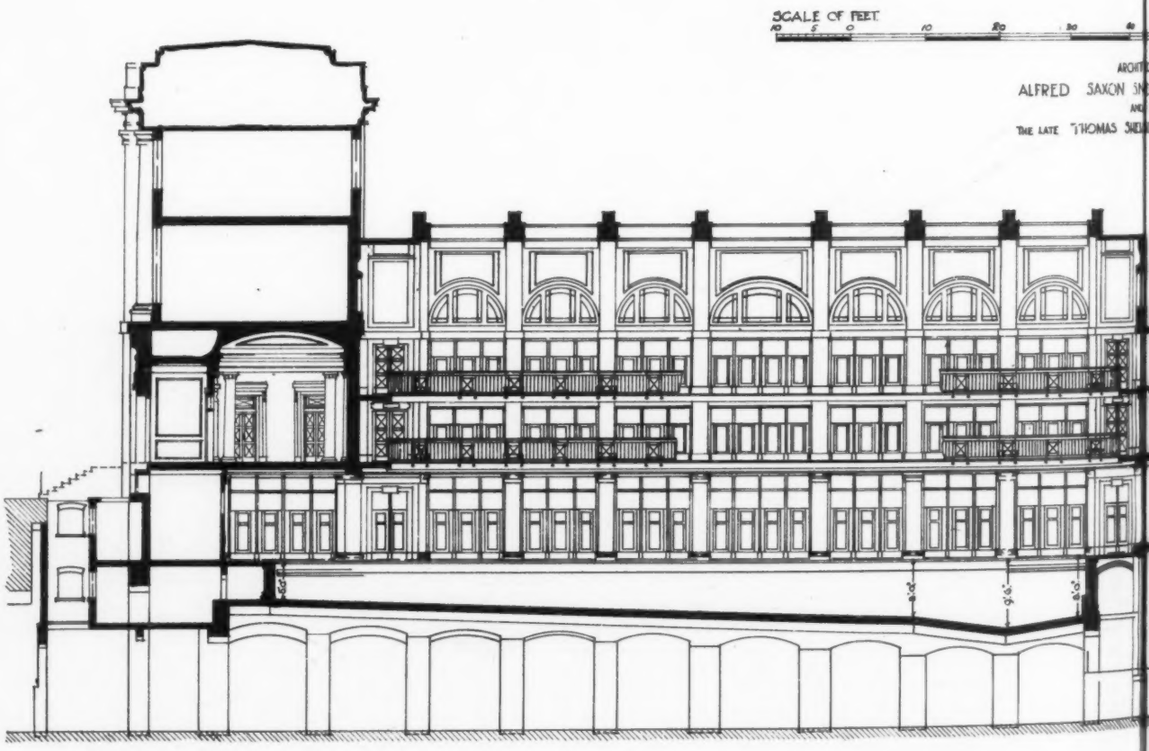
ARCHITECTS
ALFRED SAXON SNELL, FRIBA, LONDON
AND
THE LATE THOMAS SHELMERDINE, FRIBA, LIVERPOOL



SKETCH IN CONSTANTINOPLE. BY MR. WILFRID I. TRAVERS, O.B.E., F.R.I.B.A.

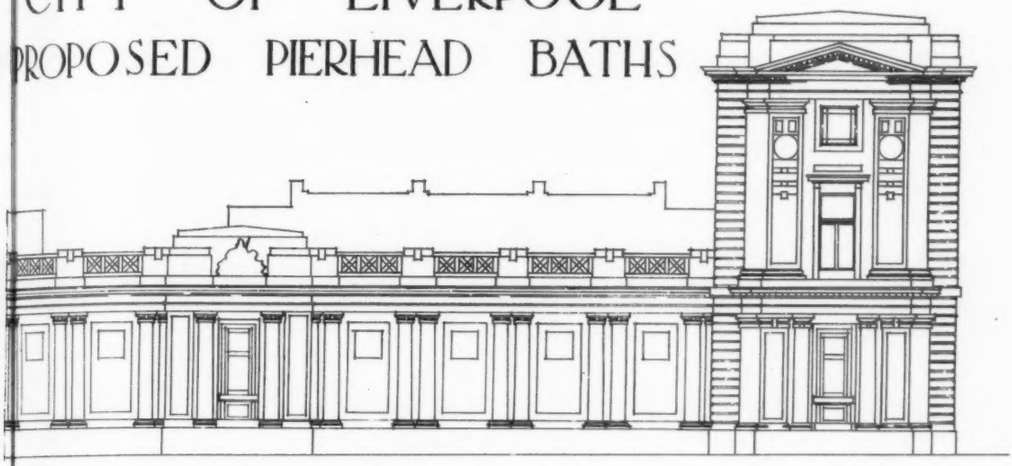


SOUTH ELEVATION



PART LONGITUDINAL SECTION
(MENS BATH)

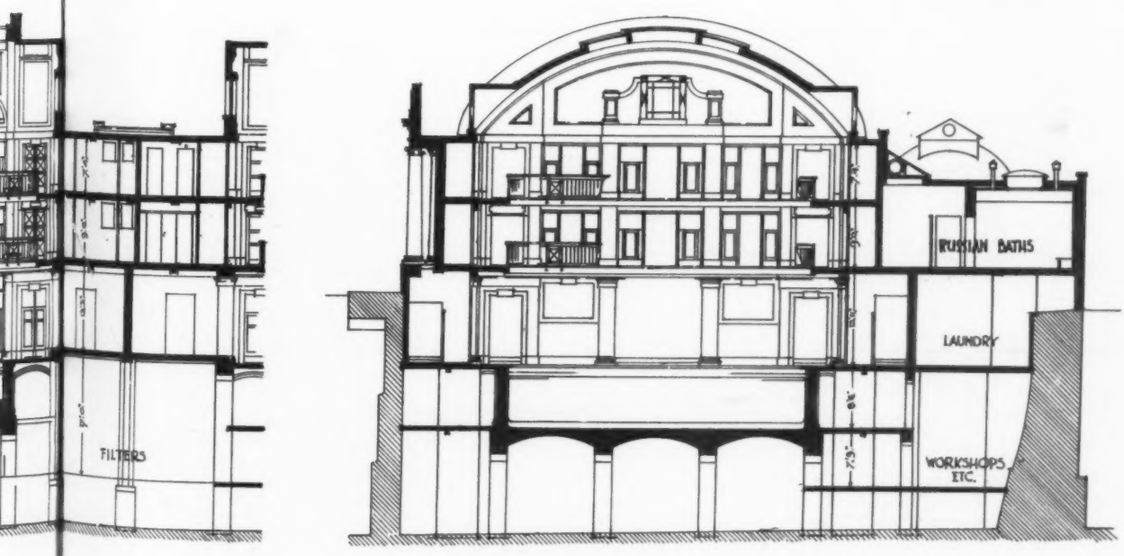
CITY OF LIVERPOOL
PROPOSED PIERHEAD BATHS



PART WEST ELEVATION

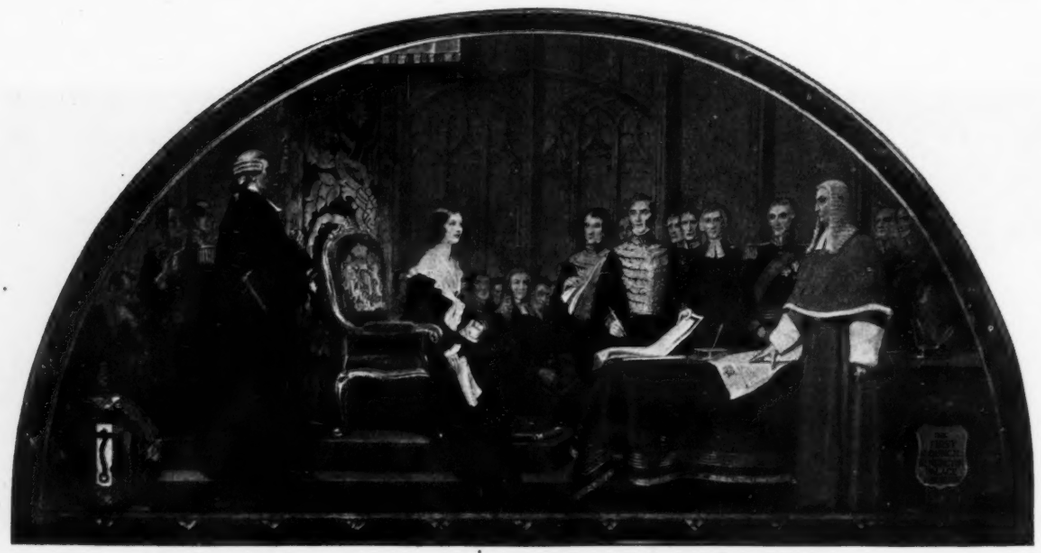
ARCHITECTS:-
SAXON SNELL, FRIBA, LONDON.
AND
THOMAS SHELMERDINE, FRIBA, LIVERPOOL.

NOTE:- HATCHED PORTIONS DENOTE OLD DOCK WALL.



TRANSVERSE SECTION
(WOMENS BATH)

Sub-station at Childs Hill.—Mr. W. W. SCOTT-MONCRIEFF, F.R.I.B.A., Architect.
[A description and plans of this building were given in our issue for September 2.]



THE QUEEN'S FIRST COUNCIL, KENSINGTON PALACE, JUNE 20, 1837.

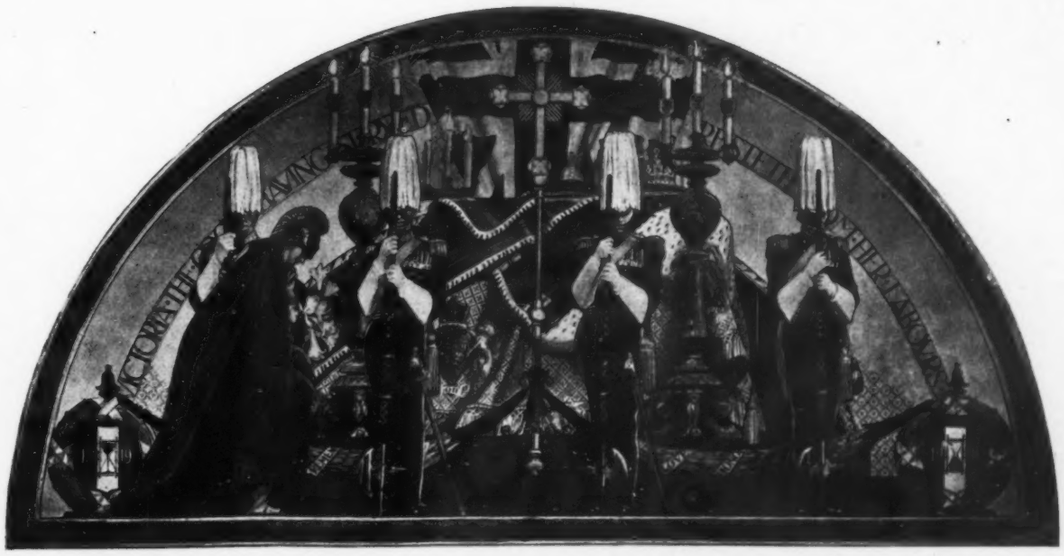
THE CORONATION, WESTMINSTER ABBEY, JUNE 28, 1838.

THE JUBILEE SERVICE AT WESTMINSTER ABBEY, JUNE 21, 1887.

The All-Indian Victoria Memorial: Frescoes in the Central Queen's Hall.
By MR FRANK O. SALISBURY.

"THE APOTHEOSIS."

"EMPIRE."



THE LYING-IN-STATE, JANUARY 22, 1901.

The All-Indian Victoria Memorial: Frescoes in the Central Queen's Hall.
By MR. FRANK O. SALISBURY.

THE TOWN PLANNING INSTITUTE.

UNEMPLOYMENT RELIEF AND TOWN-PLANNING SCHEMES.

MR. R. A. REAY NADIN (President) occupied the chair on December 9, at 92, Victoria-street, at the meeting of the Town Planning Institute, when MR. W. R. DAVIDGE, F.R.I.B.A., read a paper on "Town Planning and the Unemployment Emergency Measures."

The lecturer said there could be no more fitting subject than town planning to consider in connection with the relief of unemployment, for a town plan was but a schedule of proposed works marked out in order of their importance to the community. Up till the present the surplus unemployed labour had been directed to laying out parks, excavations, and similar work where unskilled labour could be employed without much forethought as to the eventual results. Last winter, for the first time, under the Unemployment Relief Works Act, 1920, a commencement was made by the Ministry of Transport in the construction of certain sections of the new arterial roads which had so long been discussed. Not all the schemes actually in hand had, however, received adequate consideration, and in such an important matter as arterial roads the proper location and direction of the roads was of even greater importance than merely finding something for a few men to do. A carefully thought out plan was wanted which should be ready to hand, when required, in all such emergencies as the present. The unemployed were not all unskilled. There were in their ranks men of every capacity and of every occupation, and to set such men to shift earth was not only to waste their skill but to render them unfit for skilled labour later on.

They must, therefore, broaden the basis of their ideas as much as possible as to the kinds of work suitable for unemployed labour. Every kind of work could be undertaken; the men were available, the materials were to hand, in most cases the money was available. It might be taken almost as an axiom that whatever was done would have to be done by local authorities and local initiative, with as little Government interference as possible, and then only in the shape of substantial grants, either of work or money, but preferably work. From the nature of the case not much was to be looked for from private employment, and no system of subsidy to employers or assisted industries was likely to be of permanent assistance.

The question then still further narrowed itself into what useful public works could immediately be undertaken in or near urban communities as emergency works for the provision of the maximum amount of employment. If direct food production were not possible, it might still be possible indirectly to assist the more technical part of the business by the erection of glass houses, granaries and food stores, cow-houses, dairies, land drainage, and similar agricultural works in the neighbourhood of the large towns. In every district there were large areas of undrained land at present of no use to the community which only required draining or under-draining to render them of service.

Looked at from the point of view of the town itself there would, as soon as the town plan was prepared, be miles of streets which could be constructed as opportunity served, rapid electric transit to be provided, streams to be bridged, parks and recreation grounds to be laid out, allotments to be laid out and cultivated, industrial sites to be levelled, low-lying ground to be filled up, canals improved, railway sidings and goods stations and depots to be improved, new landing stations for air traffic, tree planting and afforestation, and innumerable other activities which went to make up the modern town equipped for residence and industry. The essential for every community, large or small, was a properly considered plan for the future. Such a plan could not be delayed even until 1923, and the broad lines of development should be laid down at once. Without such a plan nothing but panic measures were likely to be undertaken, which could only result in waste both of public money and of labour. Both of these should be directed into the channels which would secure for them the maximum result, and that channel was town planning. An outline plan of procedure was wanted at once. Work was wanted urgently and could not be held up, even for a month. On the other hand, if important constructional works were commenced in a panic and put in the wrong place, the development of the whole town might be held up—not for a month, but for generations. There was much to be done in all these large towns before they could be made efficient even as industrial centres, not to mention comfortable homes, and leaving out altogether the æsthetic considerations and amenities which went to make life worth living. They could not consider roads without considering other means of transit, and that included railways, and transit, which played an all-important part in every town, must be considered in the town plan. In almost every town there were duplicate railways and unnecessary branches, railway goods yards and unwanted stations, which could be utilised to far better advantage for the benefit of the town. Why should not the town plans and the unemployment schemes deal with these and make both town and railway more efficient?

Most of the suburban and local lines required to be electrified. In the whole of Great Britain and Ireland there was no such thing as "rapid transit" for suburban passengers. Miles of new roads—both radial and ring roads—had yet to be constructed in and around practically all large towns; and in that direction alone there was ample scope for steady and consistent work for many years provided a well-thought-out plan of development was available.

The building of bridges, too, was another work which would more than repay the labour spent on them. The conduct of everyday business was hampered and untold hindrances and losses frequently caused by the neglect to build a bridge where everyone knew one would eventually have to be built. Why not do it now? An important point in the simplification of procedure would be to abolish the vexatious and costly private bill procedure in the House of Commons when the county and local authorities were agreed. It had often been said that a town-planning scheme was practically a private Act of Parliament. Why not make it so in fact? The laying out of parks and recreation grounds need not be done all at once, and that again was a fruitful ground for employment in times of emergency. A proper system of playgrounds, sportsgrounds, and open spaces was becoming an absolute necessity and the proper placing of these amenities where they could be economically developed and at the same time be within reach of everybody was one of the difficulties and also one of the arts of the modern town-planner. The town of the present day was becoming daily more complex and it was all the more essential to provide such places as allotments and public gardens where the worker could get away from the common round. Allotments were good, but a garden attached to every house was better, and there again the art of the town-planner was wanted, so that when the need came the work would be ready. Factory sites had for years been dumped down almost promiscuously, but under the ægis of town-planning it would be necessary to see that the factory was placed where it could be most efficiently run, and that involved that the railway and the canal, the water, the gas, and electric power should all be in their proper places on the plan ready for the work to begin. Canals and waterways still afforded the cheapest method of conveying heavy goods, but apart from the ship canal hardly any navigable waterways had been constructed for a century at least. Why not overhaul the present waterways and make them at least compare with the very efficient canals of Belgium and the Continent? Landing-grounds for air traffic would everywhere be wanted. At present Londoners had to go nearly ten miles to the nearest air station for the Continent. Subsidiary landing stations would be needed in all directions.

All those were essentially practical business points which must be considered if the town plan was to provide facilities for business efficiency. There still remained to be considered the beautifying of the town and the improvement of the countryside. Tree-planting in the streets should be the rule and not the exception, but they must be suitable trees, adapted to the soil and situation. The woods in the vicinity of most of the towns had suffered severely during the war. Steps must be taken, by regular tree planting and afforestation, to restore the woodlands. Such essentials as water supply, gas and electricity services, and the many other public needs would have to be constantly improved and kept up to date. All of those had to be considered, and if they were to be considered in relation to the other public needs, it could only be by the medium of a properly considered town-plan.

He suggested that the present time was opportune for the Institute to press upon authorities everywhere the necessity for preparing general schemes of town-planning and development well beforehand, so that they might be ready when emergency arose.

Discussion.

MR. REES JEFFREYS proposed a vote of thanks, and said that whilst he fully agreed that local authorities should prepare general schemes of town-planning, so as to be ready for emergencies, yet he was afraid they would have the problem of finance to face. The less they had to spend the more important it was that it should be spent under a well-considered plan, and in that connection the employment of those out of work added to the difficulty because the cost of work done under those conditions was very considerably enhanced. There were several big road schemes now in progress, and these were financed by the money raised from the motoring community. As a result they found the motoring industry had been hard hit. He drew attention to the lack of bridges on main roads, and suggested that the men who would have been employed on the armour plate for the four battleships now proposed to be abandoned should be turned on the work of making steel girders for bridges.

MR. J. A. ROSEVEAR seconded the motion, and pointed out that road making at the present time was a complicated process and not suitable for unskilled labour only. Unfortunately, there was a large number of skilled workers out of employment, and no doubt some of these could be utilised.

MR. JENKINSON (Bradford) said his Council was carrying out three road schemes and one road widening at a cost of £211,000, of which so far £70,000 had been spent. He had made an analysis of the cost and found that the increase on the basis of 1914 prices was 40 per cent. In the first six months the cost of excavation was 12s. 6d. per cubic yard, but it had since dropped to 8s. 4d. The men were at first unsuited for the work, but they tried to do their best, and although the work was costing more the community was getting something useful for the money spent. In the case of a retaining wall they found that the estimate of £3 per cubic yard was exceeded by £5 per cubic yard, but here the work was not done by the unemployed. They had designed a hollow concrete kerb for the roads and the kerbs were now being made by the unemployed at 4s. 9d. per yard as compared with 8s. 4d. by the workmen of the local authority.

MR. H. R. ALDRIDGE pointed out that at this stage the unemployed could not be allowed to starve. The present crisis was due to the war and could not be dealt with by ordinary methods. The real problem was the future, and if only local authorities were ready with town-plans they would save infinite suffering when a crisis arose.

PARLOUR-TYPE HOUSES, SOUTH ASPECT.

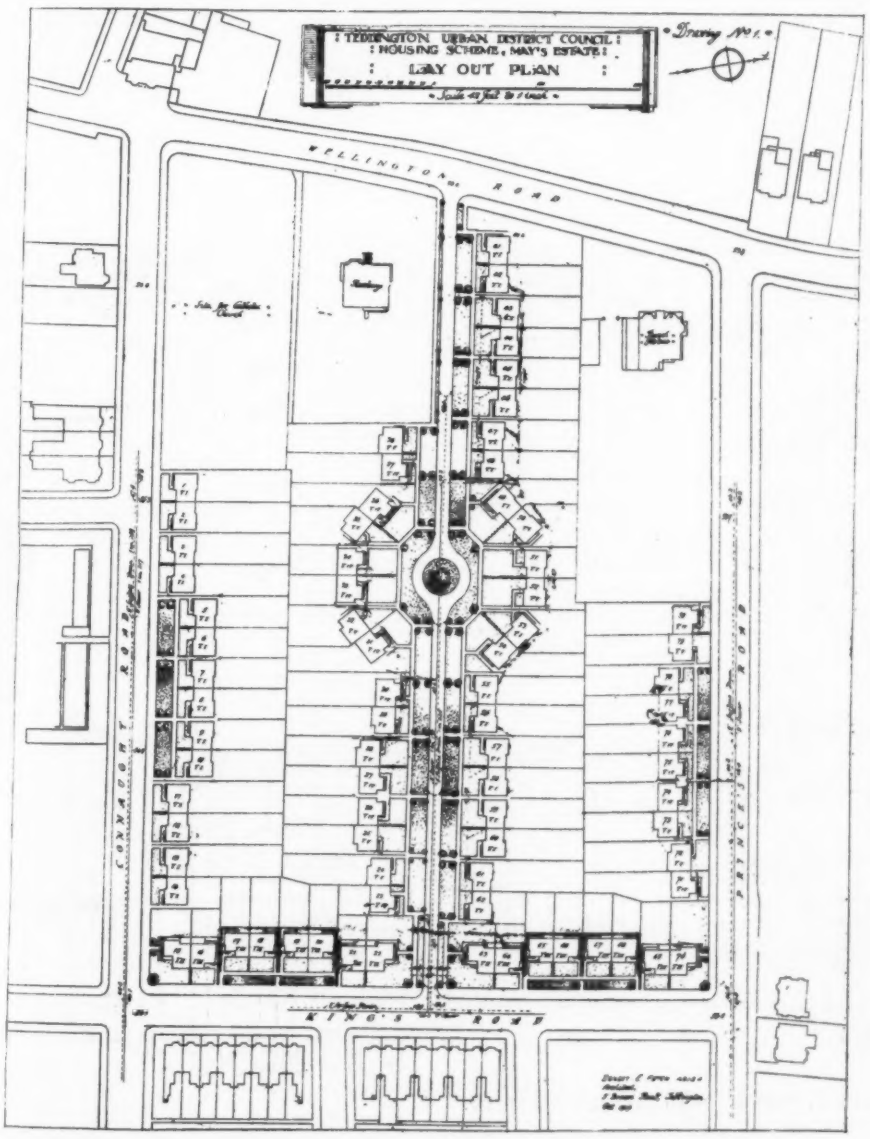
PARLOUR AND FOUR-BEDROOM TYPE HOUSES.

Teddington Urban District Council Housing Scheme: May's Estate. MR. ERNEST E. FETCH, A.R.I.B.A., Architect.

TEDDINGTON HOUSING SCHEME.

WHEN the Government decided to call a halt in the housing programme, the Teddington Urban District Council was in the fortunate position of having practically the whole of its scheme in an advanced stage of construction, and all the 202 houses are now completed and tenanted. The houses are on two estates, 124 on Udney Park Estate and 78 on May's Estate.

The Udney Park Estate site is situated in South Teddington, and has an area of about 10 acres, with 495 ft. frontage to Kingston-lane and 152 ft. frontage to St. Mark's-road. The new roadways are 33 ft. wide, with 13 ft. carriageways, grass verges and 4 ft. footpaths. The minimum distance between building lines is 75 ft. Of the total number of houses on this estate, 88 are parlour type with three bedrooms, 14 parlour type with 4 bedrooms, and 22 non-parlour type with three bedrooms. The bathrooms and lavatories are placed on the first floor, with the exception of the non-parlour houses and four bedroom types, in which this accommodation is provided on the ground floor, with access from the staircase passage. The plans of the houses are arranged as far as possible to secure the maximum amount of sunlight in the living rooms and bedrooms. All staircases are lighted by windows, and the larders have a north aspect. In the arrangement of the lay-out fifteen blocks of four houses are provided, the remainder being semi-detached. Generally the construction is with solid 9 in. brick walls. There are, however, 36 houses constructed with patent terra-cotta interlocking blocks, the whole covered on the exterior with stucco, and slated roofs. Ninety-two of the houses were built by Messrs. Walter Jones & Sons, of Westminster, 16 by Messrs. Collinson & Co., and 16 by Messrs. Landen & Read, both of Teddington. The road and sewer work for the whole site has been carried out by Messrs. Walter Jones & Sons.



Teddington Urban District Council Housing Scheme: May's Estate.
MR. ERNEST E. FETCH, A.R.I.B.A., Architect.

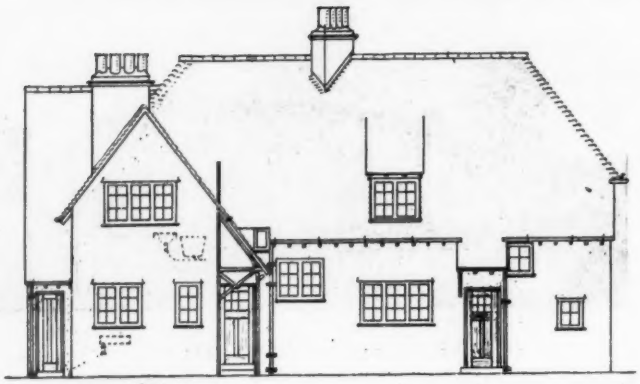
The lay-out of the May's Estate site contains 78 houses, at the rate of twelve to the acre. In addition to the building frontages to existing roads, frontages are provided upon each side of a new 33 ft. roadway through the centre of the site connecting King's-road with Wellington-road, with 13 ft. carriageway, grass verges and 4 ft. footpaths. The minimum widths between building lines is 75 ft. All the houses upon this estate are of the parlour type (living-room, parlour, scullery and three bedrooms); eleven, however, have an additional bedroom. The bathrooms and lavatories are placed upon the first floor. The plans of the houses are arranged to suit the different aspects, so as to secure, so far as possible, the maximum amount of sunlight to the living-rooms and bedrooms; the staircases are provided with windows, the larder having a north aspect. The rooms are all of the fullest size allowed by the Ministry of Health. There are five types of houses on this estate, viz.:—36 houses No. 1 Type, with south aspect; 4 houses No. 2 Type, with east aspect (4 bedrooms); 12 houses No. 3 Type, with east aspect; 15 houses No. 4 Type, with north aspect; 11 houses No. 5 Type, with north aspect. They are all semi-detached, with the exception of blocks of six (2) and four (3) of Types 1, 4 and 5. With the exception of Types 2 and 3, which have slated roofs, all are covered with tiles. The walls are constructed of 9 in. brickwork covered with lime roughcast or stucco. Window frames are fitted with casements, and the joinery is finished with wood preserving stain. The whole of the work on this site has been carried out by Messrs. Walter Jones & Sons.

On both sites the houses have been arranged with a view to avoiding a monotonous appearance, and it is proposed to plant shrubs on the verges.

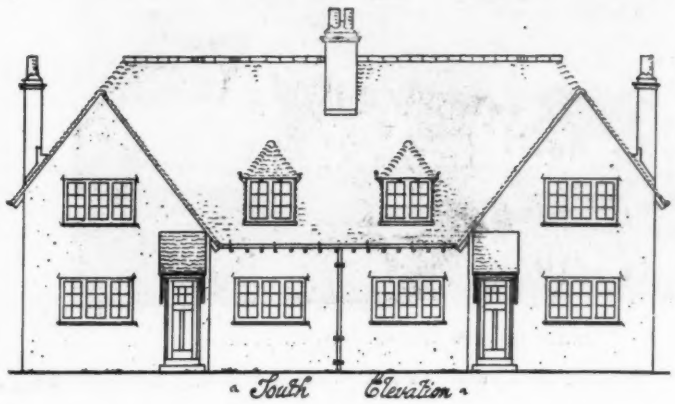
The architect for the whole scheme is Mr. Ernest E. Fetch, A.R.I.B.A., of Teddington.

German Reparations in Kind.

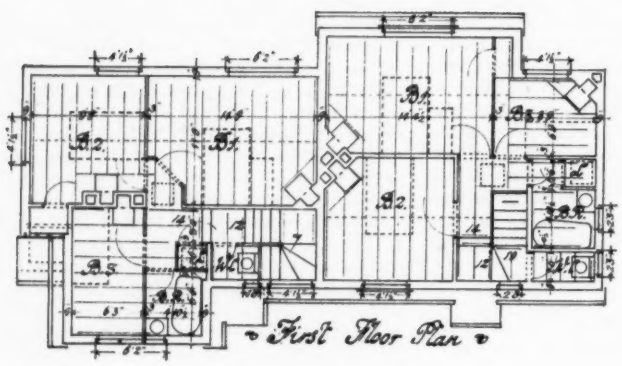
The Institution of Electrical Engineers has addressed a letter to the Prime Minister, opposing the suggestion made that the German reparation indemnity should be "partly" provided by the construction in this country of generating stations, and the carrying out of railway electrification by German contractors. They base their objections on the grounds that such action would not confer benefits on the country in the form of cheaper transport and power; that additional unemployment would immediately result; and that it would be a world-wide advertisement for Germany; diminish the prestige of British goods; and discourage the training of electrical engineers.



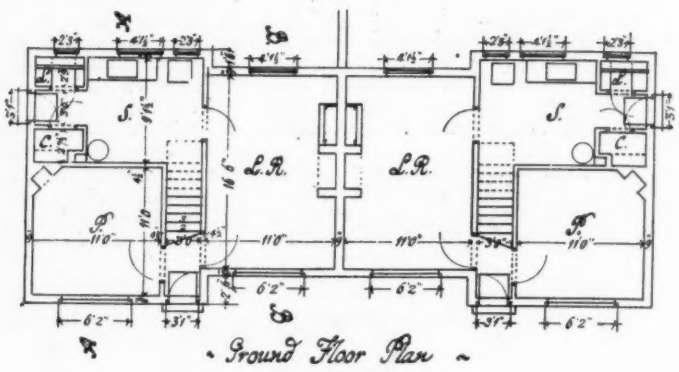
North Elevation



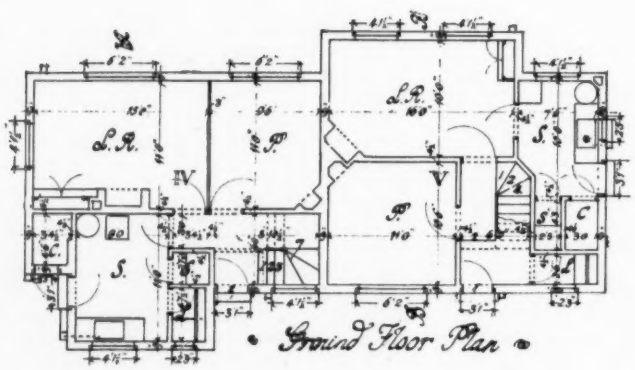
South Elevation



First Floor Plan

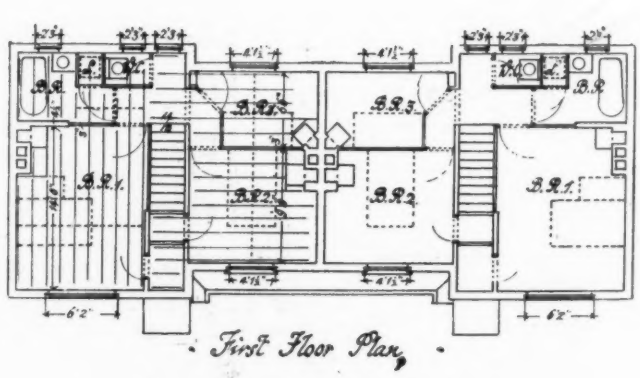


Ground Floor Plan



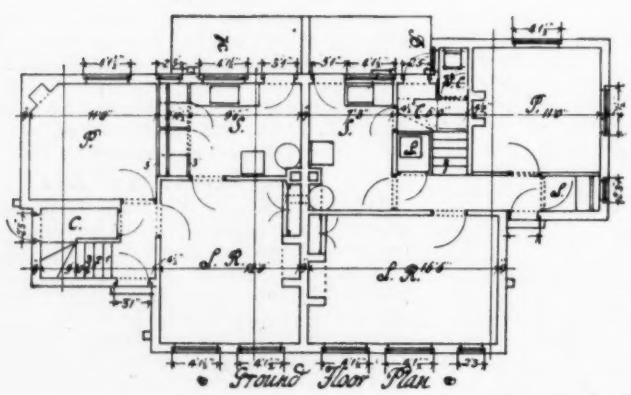
Ground Floor Plan

TYPE IV AND V HOUSES, NORTH ASPECT.

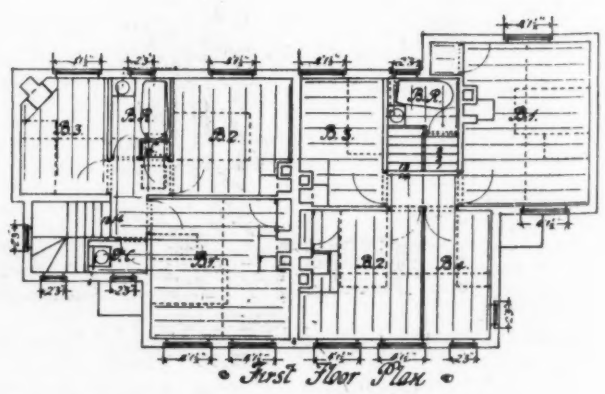


First Floor Plan

TYPE I HOUSES, SOUTH ASPECT.



Ground Floor Plan

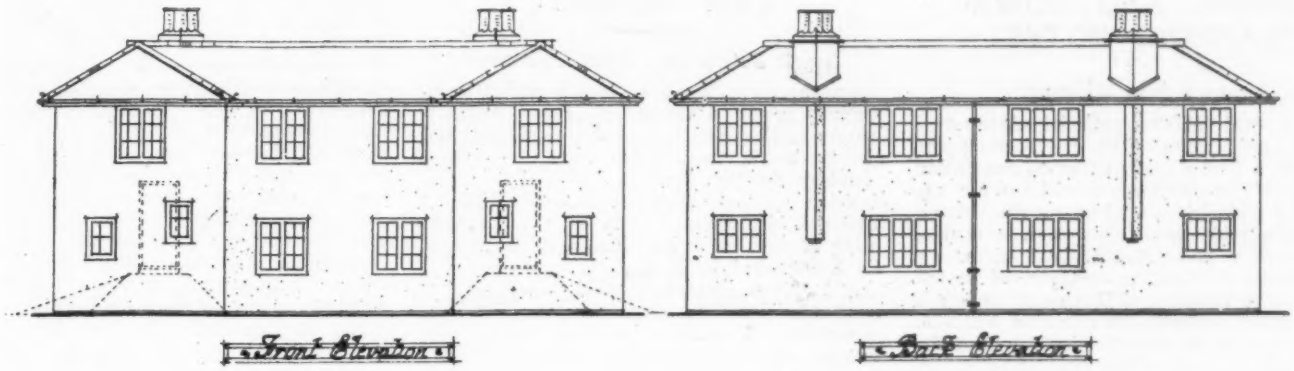


First Floor Plan

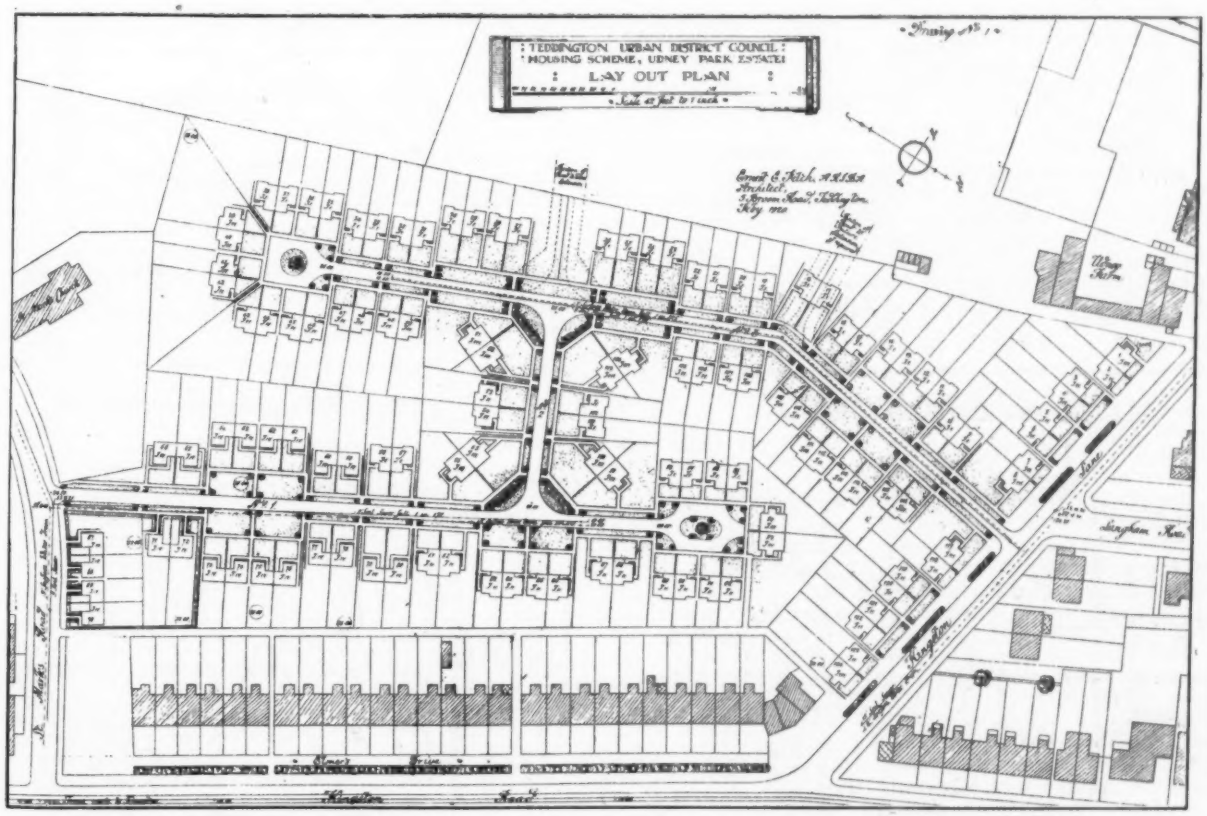
TYPE II AND III HOUSES, EAST ASPECT.

Teddington Urban District Council Housing Scheme: May's Estate.

MR. ERNEST E. FETCH, A.R.I.B.A., Architect. (*See p.* 853).



UDNEY PARK ESTATE: TYPE IV HOUSES, SOUTH, EAST, AND WEST ASPECTS.



UDNEY PARK ESTATE LAY-OUT.

Teddington Urban District Council Housing Scheme. MR. ERNEST E. FETCH, A.R.I.B.A., Architect. (*See p.* 853.)

HOUSING AND TOWN-PLANNING NOTES.

Land for Road Widening.

Mr. Howard Martin, Official Arbitrator, recently heard a claim by Mr. J. Wilson against the Mitcham Urban District Council concerning the Council's compulsory acquisition for the purpose of widening a road of a strip of land, approximately 1¼ acres in area, on the west side, and abutting on Streatham-road, Mitcham.

Mr. Charles H. Reading, surveyor (of Messrs. Chart, Son & Reading, of Mitcham), on behalf of the claimant, submitted a valuation of £1,115.

Mr. Temple S. Brodie, District Valuer of the Inland Revenue, valued the land at £435. In an alternative valuation on the basis of loss of frontage to roads when constructed, he arrived at a value of £268.

The Arbitrator, who reserved his decision, has since issued his award as follows:—"That the acquiring authority is to pay the claimant the sum of £520, and I order the claimant to contribute 20 guineas towards the costs of the acquiring authority."

Housing Progress in Scotland.

The following figures show the progress made in State-aided housing schemes in Scotland up to November 30, 1921:—Permanent houses completed, 4,115; temporary houses completed, 610; reconstructed houses completed, 67; houses built under private subsidy schemes, 1,14); total, 5,932. In addition, there are 13,926 houses under construction, of which 2,094 are being built with the aid of the Government subsidy to private persons. The total amount paid out by the Scottish Board of Health in respect of the 1,140 houses completed under the private subsidy scheme is £275,303 6s. 8d.

Floods at Hull.

Considerable damage was caused at Hull on Monday evening by flooding from the North Sea. Practically all the principal streets were flooded to a depth of three or four feet.

LAW REPORT.

Repair Notices by a Local Authority.

In the case Ryall *v.* Heath and Others, recently heard in the King's Bench Division before Justices Darling, Sankey and Branson, Mr. Frederick Ryall, Town Clerk of the Bermondsey Borough Council, appealed from the decision of the police magistrate sitting at Tower Bridge Police Court, the respondents being Messrs. H. Cubitt Heath, S. H. Heath, H. Brook, and F. E. Sneath.

Mr. Travers Humphreys said the appeal was from a decision of the magistrates who dismissed a number of summonses taken out at the instance of the Bermondsey Borough Council for whom he (counsel) appeared, and who were the appellants. The summonses were taken out against the owners of a number of houses in the district, and the respondents were owners within the meaning of section 28 of the Housing, Town-Planning, &c., Act, 1919, of some 500 houses to which the provisions of the Act applied. Between January 1, 1920, and April 2, 1920, the Council served each of the respondents with notices requiring work to be done to certain houses in Ernest-street. On April 23 a considerable number of the notices had not been complied with, and the Council then served notices requiring the work to be executed within twenty-one days. The respondents did not comply, and thereupon the Council, purporting to act under subsection 2 (a) of section 28, executed the work itself. On November 15, 1920, the Council served twenty-three demands on the respondents for expenses incurred to a total of £623, and in default of payment summonses were taken out to recover. The complaints were heard in March, 1921, when the respondents resisted the claims on the ground that the notices did not provide a reasonable time for the execution of the work.

On behalf of the Council, it was contended that the question of the reasonableness of the time specified in each of the notices was not a matter for the jurisdiction of the magistrate, that the Legislature had by the wording of the Act left it entirely to the discretion of the local authority, and that the reasonableness of the time specified in a particular notice must depend on the work that had to be done. The magistrate held that the respondents could not by any reasonable effort or diligence have complied with the notices, that the period of twenty-one days specified in the notices was not in all the circumstances a reasonable time, and that the notices were invalid, and consequently dismissed the complaints. The matter now came before the court on a question of whether this decision was a correct one on all the facts in point of law.

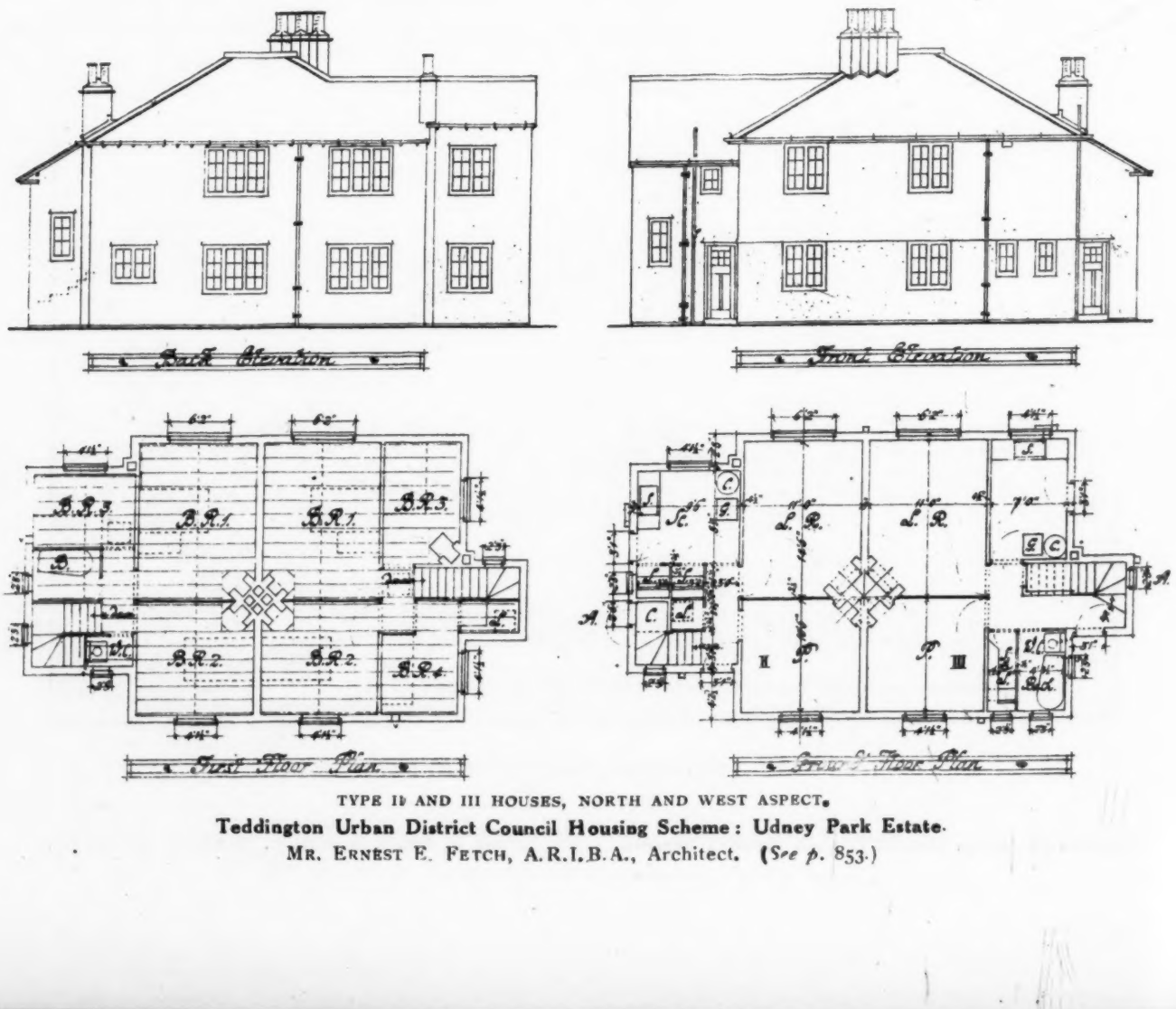
Mr. Eustace Hills, K.C., on behalf of the respondents, submitted that the twenty-one days' notices were not orders under the seal of the authority, nor were they authenticated by the signature of the local authority's Clerk. Some £100 per week was being expended during the period of the earlier notices by the respondents, who were then employing some twenty men. He contended that the decision of the magistrate was correct.

Mr. Justice Darling, in giving judgment, said it seemed to him the magistrates were bound to inquire whether the twenty-one days in the notice was a reasonable notice. The local authority apparently took longer than twenty-one days to do some of the work itself, and if the respondents had been ordered to do the work within twenty-one days they would have been ordered to do something that was physically impossible. In all the circumstances, the decision of the magistrate was right, and the appeal failed.

Mr. Justice Sankey and Mr. Justice Branson concurred, and the appeal was dismissed, with costs.

Proposed New Cinema at Dewsbury.

Plans have been approved for the erection of a new cinema in Foundry-street, Dewsbury. The hall will have a seating capacity of 1,246 persons. The architect is Mr. P. A. Hinchliffe, of Barnsley.



TYPE II AND III HOUSES, NORTH AND WEST ASPECT.

Teddington Urban District Council Housing Scheme: Udney Park Estate.

MR. ERNEST E. FETCH, A.R.I.B.A., Architect. (*See p.* 853.)

THE CONCRETE INSTITUTE.

Presidential Address.

THE Presidential address to the members of the Concrete Institute was delivered recently by MR. E. FIANDER ETCHELLS, who, in his opening remarks, referred to the new bar-bending machine invented by Capt. Sankey, a demonstration of which was given. Continuing, he took the opportunity of formally introducing to the members of the Institute the new Secretary, Mr. Maurice G. Kiddy.

Referring to matters of general interest to those concerned with concrete construction, he said although there had been an enormous development in concrete work during the past few years little provision had been made for systematic education in concrete theory and practice. What was wanted was a new type of mechanic, the expert concreter and block-setter. Up to now, the education of the concreter had been left very largely to chance. It was imperative that provision should be made for training young men in the interests of the future of the industry, and it might be done through the various technical schools and institutes throughout the country. In the curriculum of these institutions, concrete should be regarded as an independent subject. He suggested that a small committee of the Concrete Institute should be appointed to draw up a suggestive course on modern lines to be submitted to the authorities. The object of these educational courses would be to produce skilled concreters and block-setters who, by passing an examination and gaining a certificate, would have the definite status in the industry which was already in existence but which had yet to be organised. The examinations might be carried out by the Concrete Institute, which already had the necessary machinery for holding such examinations, but the classes would be held at the various technical schools. Allied with this was the question of a concreters' union. It could hardly be put forward from the masters' side that such a union should be formed in order to give such men a definite status in the industry; such an organisation was, however, desirable, and it might be the means of absorbing some of the men at present unemployed and without any special trade, and of training them. Thus a body of skilled workers would be available to deal with concrete work.

Discussing the strength of brickwork, he said one dominant factor was the necessity for making allowance for the psychology of the bricklayer, the plumber, and the electrician, who frequently quite indifferently cut away piers after the loads had been carefully calculated and reduced the whole strength of the structure. With regard to the strength of brick pillars in themselves, one or two laws stood out from the weltering chaos of data; for example, tests showed that: (*a*) The crushing strength of individual bricks might be five to ten times the crushing strength of the piers as a whole; (*b*) for any given quality of mortar, the strength of the pier varied with the strength of the individual bricks in the pier; (*c*) for any given quality of bricks the strength of the pier varied with the strength of the mortar; (*d*) if a mortar comprised of one volume of Portland cement and four volumes of sand were used in lieu of mortar comprised of one volume of freshly burned lime and two volumes of sand, the crushing resistance of the pier would be increased by an amount which might reach 25 tons per sq. ft.—for example, a pier in lime mortar which might crush at 25 tons per sq. ft. might be expected to resist 50 tons if cement mortar were used as specified above; (*e*) if blue bricks or other hard bricks were to be used, it was desirable that a rich cement mortar should also be used, in order that some advantage might be obtained from the hard bricks—on the other hand, if very soft bricks were used, the pier would be strengthened by the use of cement mortar instead of lime; (*f*) there was something beyond a simple crushing resistance involved in the failure of brickwork—there was tensile stress on the bulging side of a brick pier; there was also a question of adhesion between the mortar and the brickwork. Many piers failed by splitting longitudinally and the use of cement mortar was more efficacious in reducing the splitting tendency; (*g*) since lime mortar set by the absorption of carbon dioxide from the atmosphere, and since the outer coating of mortar set first, and tended to protect the inner lime from atmospheric influences, it not infrequently happened that the lime mortar in the interior of a thick pier dried up rather than set. An examination of the interior of brick piers which had failed appeared to indicate that in some instances the mortar had never acted as a true cement material; (*h*) in order to increase adhesion of the mortar to the bricks, it was essential that the bricks, if absorbent, should be well soaked before being used, and should be well drenched after being laid, otherwise there was a great risk of the bricks absorbing the moisture from the mortar and thus retarding or hindering the setting.

Reinforced Concrete Marine Works.

At a meeting of the Concrete Institute on Thursday last week, MR. W. NOBLE TWELVETREES read a paper entitled "Reinforced Concrete Piers and Marine Works."

In his opening remarks, he said while mass concrete or large blocks of plain concrete might be advantageously employed in important works where there was solid rock or a firm stratum of earth capable of supporting heavy masses of concrete, it generally happened that alluvial soil was encountered in tidal rivers and estuaries. Therefore, numerous wharves, jetties, piers, and other marine structures had been built of iron, steel, and timber, with the object of reducing as much as possible the imposition of useless weight upon strata of low-bearing power. The inevitable corrosion of iron and steel and the decay of timber rendered those materials particularly unsuitable for employment in construction situated partly below and partly above water level, to say nothing of the injury caused to timber by destructive sea worms. Reinforced concrete when properly designed and carefully applied by experienced contractors was free from these drawbacks. At the present prices of materials it was probably little, if at all, more costly than timber, and the ultimate economy resulting from its exceptional strength, durability and fire-resisting properties gave reinforced concrete a clear advantage over the other materials mentioned.

After giving brief particulars and lantern illustrations of some typical examples of maritime structures, he said one of the most remarkable uses of reinforced concrete was that represented by the construction of floating structures of various kinds, including caissons, pontoons, floating docks, barges, sailing vessels, motor-boats and sea-going steamships. The "Batterie des Maures," a large caisson which had now found a permanent resting place in the Bay of Hyères, on the Mediterranean, where it was employed for testing torpedoes, was one of the most interesting reinforced concrete structures of its kind ever built. That huge structure was built on shore, launched, towed out to sea, and sunk on a levelled bed in deep water. It consisted essentially of a caisson, above which was a superstructure of two stories surmounted by a spacious deck. The caisson was over 50 ft. high by 77 ft. long by 45 ft. wide at the base, and 65 ft. long by 35 ft. wide at the top. The outer walls were 6 in. thick, and the interior partition walls 4 in. thick. The superstructure rose about 20 ft. above the top of the caisson, and at one end an observation chamber projected 17 ft. as a cantilever. The caisson was built in a dry dock at La Seyne, near Toulon, the work of constructing and placing it upon its bed being divided into three parts: (1) construction in the dock, (2) launching and towing to the site prepared, (3) sinking by means of ballast and protecting the base by a surrounding bank of large blocks of stone. After the work of concreting had been completed, the top of the caisson was temporarily decked for the convenience of those who had charge of sinking operations. A warp of 10 cm. diameter passing twice around the caisson, provided with padding at the corners and held in place by cordage, was attached to a cable of 12 cm. diameter, the other end of which was made fast to two steam tugs arranged tandem fashion. Having a displacement of 2,600 metric tons and drawing eight metres of water, the caisson was towed through the sea for a distance of about 40 kilometres, the passage occupying fifteen hours. The position of the foundation bed prepared in advance was marked by buoys, and when the caisson had been correctly aligned in place it was sunk by admitting water to the interior compartments provided for the purpose, these compartments being afterwards filled with concrete. The blocks of stone forming the outer protection were deposited around the caisson, and the work of completing the superstructure was then taken in hand. The stability of a work such as the Batterie des Maures constituted a difficult problem, for it was practically impossible to determine precisely the horizontal resultant of the forces due to the action of the waves in rough weather. Therefore, the monolithic nature of the reinforced concrete construction was a great advantage, as the walls and other parts were thoroughly consolidated and rendered capable of withstanding forces which might cause injury to a structure built in accordance with ordinary methods. So far as stability was concerned, an ample assurance of safety was provided by the fact that while the total weight of the battery was 9,000 metric tons the weight of water displaced was only 3,700 metric tons, leaving a net weight of 5,300 metric tons. Further it was stated that the structure was capable of offering 50 per cent. more resistance to overturning moment than the maximum resistance for which provision need be made anywhere on the coast of the Mediterranean.

Various ingenious methods of constructing building berths were adopted in the concrete shipyards, one which was found very satisfactory in practice embodying the construction of concrete foundations taking the form of a pathway following the outline of the vessel to be built, with a centre strip wide enough to carry the keel blocks, which, together with the bilge blocks, were moulded in advance with two pieces of pipe extending from side to side, so that the blocks could be readily handled by the aid of steel bars passed through the holes. The blocks were built up to the required height with bedding pieces of felt between successive blocks, oak wedges being placed on the uppermost blocks, and on the wedges were laid bearers for the timbering of the hull.

The most interesting reinforced concrete landing stage was at Clevedon for use by passenger steamers plying between that seaside resort and large centres of population on either side of the Bristol Channel. Situated at the end of an iron pier 850 ft. in length, the landing stage was a framed structure of reinforced concrete, 100 ft. long at the sea bed and 95 ft. long at the top by 30 ft. wide at the sea bed and 12 ft. wide at the top, by 53 ft. in height from the sea bed to the topmost decking. It was founded upon twenty-two piles, driven into solid rock.

The chief objection to timber groynes in coast protection was the perishable nature of the material. Within recent years that objection had been entirely overcome by the adaptation of reinforced concrete to groyne design under the Owens and Case patent. The new type of groyne was of very simple character, consisting of grooved reinforced concrete pillars fixed in holes excavated in hard soil, or grooved reinforced concrete piles driven into soft soil, reinforced concrete slabs being dropped into place between the pillars or piles. The uprights in either case were made of sufficient height to allow additional slabs to be inserted as beach material accumulated, and where necessary raking struts were applied to ensure lateral stability. When the beach had been built up to the required height, the groynes were completed by slabs rounded at the top to form a smooth coping along the entire structure. The first cost was said to compare favourably with that of timber construction, while the ultimate cost was very much less, owing to the permanence of the material.

THE BUILDING TRADE.

THE MANCHESTER AND DISTRICT BUILDING TRADES' EMPLOYERS' ASSOCIATION.

A DINNER was held by the Manchester, Salford and District Building Trades' Employers' Association at the Midland Hotel, Manchester, on Wednesday last week. The function also marked the twenty-first anniversary of the Association. MR. JOHN M. MACFARLANE presided over the gathering, at which there were over 200 present, including Messrs. A. J. Forsdike (President of the National Federation of Building Trades' Employers), A. G. White (Secretary of the National Federation), Thos. Howarth, J.P. (President of the North-Western Federation of Building Trades' Employers), Professor A. C. Dickie, M.A. (Manchester University), Messrs. A. W. Hennings, F.R.I.B.A. (President of the Manchester Society of Architects), and Harry S. Fairhurst, A.R.I.B.A.

Following the loyal toasts, the CHAIRMAN said they were met together to do homage to Mr. Henry Matthews, J.P. (President of the Association), who had given eminent and distinguished services to the Association and also to the country. Mr. Matthews had laboured indefatigably for over twenty-one years, and had discharged his duties with remarkable ability. They had had no more scholarly representative; he had helped them in the direction of education, and he (the Chairman) hoped that in the future there would be established at the Manchester University a chair in building, with a degree attached to it.

MR. SAMUEL SMETHURST, J.P., also spoke highly of the valuable work done by Mr Matthews, and added that there was never a time when more cohesion between all sections of the building trade was more necessary than to-day.

MR. STEPHEN EASTEN, O.B.E., J.P., who followed, addressed congratulatory words to Mr. Matthews, in which he said he would desire nothing more when he reached the age of 74 than to receive, as Mr. Matthews had, the reverence and appreciation of his fellows.

MR. TOM STOTT, associating himself with the remarks of the previous speakers, said Mr. Matthews was a generous and public-spirited man who had gained and not lost by his unselfishness.

At this stage of the proceedings the CHAIRMAN presented Mr. Matthews with an address on vellum, and also a life-size portrait in oils, the work of Mr. Francis Dodd. The address congratulated Mr. Matthews upon the distinction he held of having been the first as well as the twenty-first President of the Association under its reformed constitution. He had also been the President of the North-Western Federation, the President of the Institute of Builders (Manchester Branch), and a member of the National Board of Conciliation and the National Joint Industrial Council; the efficiency and extent of his devoted labours on behalf of the industry were beyond praise.

Replying, MR. MATTHEWS said he found it difficult to reply adequately to all that had been said about him. To show the growth of the Association it was interesting to note that in 1903 they had in hand just over £13; in 1913 over £300. Their estimated income for the present year would total £4,452. Their membership of 340 embraced every employer of importance in the district, with the exception of painters and plumbers.

MR. WALTER THORPE, who proposed the toast to the "Manchester University and the Manchester Society of Architects," said it should be possible for builders to have a higher education. It was difficult to plan a building: it was also difficult to erect one, and they wanted closer co-operation between the builder and the architect, whose interests were mutual.

PROFESSOR DICKIE, responding, said architects had forced Universities—London, Cambridge, Manchester, Liverpool, and Sheffield—to recognise their needs. It was up to the builders to do the same.

MR. A. W. HENNINGS said he was confident that the more builders allied themselves together the greater would be their strength. It was that propelling force of unity which was going to change his profession and the builder's practice. The builders had realised that strength when they started the Institute of Builders.

THE YORKSHIRE FEDERATION OF BUILDING TRADES' EMPLOYERS.

THE annual meeting of the Yorkshire Federation of Building Trades' Employers was held at Leeds Town Hall last week. The President, Alderman W. H. Birch (Lord Mayor of York), was in the chair.

The Lord Mayor of Leeds (Mr. W. Hodgson) in extending a welcome to the delegates, said there was no doubt that the supply of new houses would have been largely increased but for the operatives laying down rules as to what was each man's particular job and what was not. His view was that if a man could do plastering and brick work he should do both, in order that the difficulty might be solved as quickly as possible. There was a great shortage of plasterers and slaters, and the country was suffering because the ordinary bricklayer, even if competent to do so, was not allowed to do this other work.

The annual report of the Federation, which was approved, stated that continued delay in completion of houses had revealed the inadequate supply of skilled men in certain crafts, and that, combined with the high cost of house-building, led the Ministry of Health to review its policy. A halt was made in the approval of further housing schemes, except in cases where the needs were absolutely urgent. The result was a very serious falling off in the demand for building labour. The limitation of employment was accentuated by the restriction on private work, which obtained for some years, and although that had been repealed trade was passing through such a serious depression that private clients did not generally feel justified in proceeding with building work, and had further been encouraged to abstain on account of the considerable fall in the cost of building which had taken place. That fall was due to two main causes—namely, the considerable reduction in the cost of certain building materials, particularly timber, and the improvement in output which had gradually taken place during the past few months. The cost of houses had appreciably declined and was now probably 30 per cent. below the prices obtaining about twelve months ago. The Federation had followed with considerable interest the experiment of entrusting the construction of houses to building guilds, and the results were very edifying. In one case the Housing Commissioner was holding an investigation into costs, as the returns were showing excessive sums, and a valuation to date was being arranged. It was also interesting to note that at Newbury houses were being erected by direct labour, for which the Surveyor's original estimate was £650, whereas the cost worked out from £1,000 to £1,147 per house. The Federation had reason to believe those were typical illustrations.

Mr. E. Quibell (Hull) was elected President for the ensuing year.

NEW BUILDINGS IN LONDON.

THORNTON HEATH.—Work is now proceeding on the contract for the pulling down and rebuilding of the "Prince George" public-house on the corner of High-street and Grange-road. The builders are Messrs. Truett & Steel, Ltd., of High-street, who are working to the plans of the architects, Messrs. Eedle & Meyers, of 8, Railway-approach, London Bridge, S.E. The new building will consist of four floors and basement constructed in brickwork, with glazed stone facings supplied by Messrs. Doulton. All the joinery work and public-house fittings will be supplied by the builders.

PURLEY.—Messrs. W. H. Frewing, builders and contractors, are now erecting two private dwelling houses for their own use on a site adjoining their works in Brighton-road. The plans provide for two-story dwellings built of brickwork and finished in roughcast. Part of the partition walls on the upper floor will be built with breeze slabs and the remainder in brick.

WILLESDEN.—Good progress has been made with the erection of two houses in Essex-road, a turning off Church-road. The one to be known as No. 47 will have five rooms, and the other house, which will be No. 49, will have seven rooms. Messrs. Brown & Co., of Yewfield-road, are the builders. The buildings will be brick construction with cement and sand finish, having flat asphalte roofs. Most of the timber fittings, &c., used will be supplied by the Middlesex Joinery Works, Ltd., of Clapton, E. The architect is Mr. Shaw, of Craven Park, N.W.

WILLESDEN GREEN.—Various alterations and certain building operations are now in progress at the "Spotted Dog" public-house in the High-road. The main part of the work consists in the taking-out of the old front and replacing it with a new front which has been contracted for by Messrs. Carter & Co. (London), Ltd., tile manufacturers, of 29, Albert Embankment, S.E. The building work is being carried out by Mr. H. F. Wilkins, of 2, Churchill-road, Cricklewood, N.W.2. The plans for the scheme have been prepared by Messrs. Fetch & Fermand, M.S.A., F.R.I.B.A., architects and surveyors, of 8, Buckingham Palace-road, S.W.

WALTON-ON-THAMES. — The Woking Co-operative Society, Ltd., has acquired additional land adjoining its branch in Horsham-road, on which it is proposed to make extensions to the existing premises. No further details are yet available, but full particulars will shortly be obtainable from Mr. Newbold at Percy Street, Woking.

Messrs. George England, Ltd., motor engineers, of Horsham-road, have secured a large site, also fronting Horsham-road. This is the proposed site for their new works, further details of which will be available at a later stage.

WIMBLEDON.—Further to our paragraph last week, Messrs. Walter Jones & Sons, of 64, Victoria-street, S.W. 1, are carrying out the major portion of the Merton and Morden housing scheme; 240 out of a total of 440 houses are being erected by that firm, to the design of Messrs. Ernest G. Allen & Partners, of 4, Arundel-street, W.C.

NOTTINGHAM BUILDING TRADES' EMPLOYERS' ASSOCIATION.

AT the annual dinner of the Nottingham and District Association of Building Trades' Employers last week, the President, Mr. C. T. Gilbert, was in the chair, and among those present were the Mayor (Councillor F. Berryman), the Sheriff (Councillor A. Parkes), the Town Clerk (Mr. W. J. Board), Alderman H. Bowles, Alderman J. Lewin, Messrs. W. Bosworth, James Wright, W. Appleby, A. Wright,

J. W. Woodsend, T. W. Gordon, Major T. C. Howitt, Councillors W. Crane and J. Farr.

Proposing the toast of the Mayor and Corporation, Mr. James Wright said rates were so high that they were a real handicap to the trade and development of the city. He contended that the cost of education, the poor, and the administration of justice should be borne nationally, in proportion to the means of everybody, and should not rest solely upon property, for the amount of property in this country assessed for local rates was many times less than the amount of the income tax assessment.

Alderman Bowles, in responding, said the only sound way of rating was one rate for all purposes on a man's income. That might not be acceptable to everyone, but it would mean that the man best able to pay would pay.

Alderman J. Lewin proposed "The Architects and Surveyors," to which Mr. A. Eaton, President of the Nottingham and Derby Architectural Society, responded.

STAFF DINNER.

OVER a hundred-and-fifty members of the staff of Messrs. C. J. Wills & Sons accepted the invitation of the Committee of the General Foremen to meet them at a dinner at the Connaught Rooms on Saturday evening last. Mr. J. Nelson, the Secretary of the Foremen's Committee, was responsible for the arrangements.

Mr. W. F. Bishop, the Chairman, proposed the toast of "Messrs. Wills & Sons." Unfortunately, Mr. Wills was absent from the dinner on account of a recent bereavement. He had great pleasure in coupling with the firm's name that of Mr. G. B. Sharples. Musical honours were accorded to Mr. Sharples, who, in responding, expressed his thanks for his share of the toast, and proceeded to respond for the firm. The works of Messrs. Wills, he said, were well known abroad, especially in India. There was scarcely a railway in England or a dock or harbour in the Adriatic which had not been partly constructed or in some way improved by the firm. They had also left their mark in Egypt. The L.C.C. had given the firm some time ago the biggest house-building job on record, which he hoped all present at that function would help successfully to accomplish.

Mr. H. Colinridge proposed "The Administrative Staff of the L.C.C.," which was replied to by Mr. Meredith, who said the scheme which they were engaged upon was one which involved the building of 20,000 houses. He spoke in high terms of the good work done by the general foremen, and congratulated the subcontractors on their share in the scheme.

The Chairman then said he had a very pleasant duty to perform, and asked Mr. Sharples to accept from himself and his fellow foremen a framed photograph of the fifteen "generals."

Mr. Sharples, in accepting the gift, referred to it as a token of respect to the firm. He said it was a very pleasant memento of a very pleasant time.

Mr. Price, of the L.C.C., toasted the "General Foremen," and Mr. Shipway responded.

During the evening a musical programme was gone through, under the direction of Mr. J. Nelson.

Tokio Peace Exhibition.

The Department of Overseas Trade is in receipt of information from the Commercial Counsellor of His Majesty's Embassy in Tokio regarding the forthcoming Peace Exhibition which is to be held there from March 10 to July 31, 1922. The Commercial Counsellor states that this exhibition may prove a good opportunity for showing new British goods, and he recommends British firms to make a small exhibit. It would appear that all the space available for foreign exhibits has been over-applied for. Messrs. Arthur Buckney & Co., of Tokio, have, however, secured a special site for the erection of a British pavilion, and intending exhibitors can obtain space therein on application to the London Office of the firm at 40, Westminster Palace-gardens, S.W.1.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdare	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Accrington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Altrincham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Ashton-under-Lyne	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Barnsley	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Barrow-in-Furness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Barry	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Bath	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½			1/5
Bedford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Birkenhead	2/2	2/2	2/2	2/2	2/2	2/2	2/2			1/9½
Birmingham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Bishop Auckland	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Blackburn	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Blackpool	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Bolton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Bournemouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Bradford	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Bridgwater	1/7	1/7	1/7	1/7	1/7	1/7	1/7			1/3
Brighton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Bristol	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Burnley	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Burton-on-Trent	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Bury	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Cambridge	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Cardiff	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Chatham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½			1/3½
Chelmsford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Cheltenham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½			1/5
Chester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Chesterfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Colchester	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Coventry	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Crewe	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Darlington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Derby	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Doncaster	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Dudley	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Durham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
East Glam. and Mon. Valleys	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Exeter	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½			1/4
Folkestone	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½			1/3½
Gloucester	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½			1/5
Grantham	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Grays	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/11½			1/7½
Grimsby	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Great Yarmouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½			1/3½
Guildford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Halifax	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Harrogate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Hartlepools	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Hastings	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½			1/3½
Hereford	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½			1/5
Huddersfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Hull	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Ipswich	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Lancaster	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Leamington Spa	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Leeds	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Leicester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Lichfield	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Lincoln	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Liverpool	2/2	2/2	2/2	2/2	2/2	2/2	2/2			1/9½
Llanelly	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
London	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/11½			1/7½
Loughborough	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Luton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Maidstone	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½			1/3½
Manchester	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Mansfield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Merthyr Tydfil	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Middlesbrough	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Newcastle-on-Tyne	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Newport, Mon.	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Northampton	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Norwich	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Nottingham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Oakham	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½			1/5
Oldham	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Oxford	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Plymouth	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/9½			1/6
Pontypridd	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Portsmouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Preston	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Reading	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Rochdale	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Rochester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½			1/3½
Rugby	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
St. Albans	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
St. Helen's	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Scarborough	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Sheffield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Shrewsbury	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Southampton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Southend-on-Sea	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Southport	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
South Shields	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Stockport	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Stockton-on-Tees	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Stoke-on-Trent	2/–	1/11	2/–	2/–	2/–	1/11	2/–			1/7
Stroud	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8			1/4
Sunderland	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Swansea	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Taunton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Torquay	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Tunbridge Wells	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Wakefield	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Walsall	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
Warrington	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
West Bromwich	2/0	2/0	2/0	2/0	2/0	2/0	2/0			1/7½
Wigan	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Windsor	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½			1/4
Wolverhampton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½			1/7½
Worcester	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6
York	1/11	1/11	1/11	1/11	1/11	1/11	1/11			1/6

(For rates of wages in the Building Trade in Scotland, see page 860.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom, or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

DECEMBER 26.—**Edinburgh.**—SUB-STATION.—Erection of electric sub-station, West Granton, for the T.C. Mr. James A. Williamson, City Architect, Public Works Offices, City Chambers, Edinburgh.

DECEMBER 28.—**Liverpool.**—VARIOUS WORKS.—(1) Additions and alterations to boiler house and laundry; (2) new sanitary tower to Female Hospital; (3) alterations to Female Hospitals; (4) two connecting corridors at the Walton Institution, for the Board of Guardians. Mr. E. B. Bailey, architect, 37, Moorfields, Liverpool. Deposit £2 2s.

DECEMBER 28.—**Wallasey.**—HOUSES.—Erection of 46 houses on the Mill-lane and Love-lane site, in four contracts, for the T.C. Mr. W. H. Travers, Borough Engineer, Town Hall, Wallasey. Deposit, £5.

DECEMBER 29.—**Crewe.**—BUILDING.—Erection of new handicraft building, &c., at the County Training College, Crewe. Mr. H. Beswick, County Architect, Chester. Deposit £1 1s.

DECEMBER 29.—**Hawarden.**—HOUSES.—Erection of 22 houses, Type "A," at Saltney, near Chester, for the R.D.C. Mr. Fred Barrett, Surveyor, Hawarden. Deposit £2 2s.

DECEMBER 29.—**Manchester.**—REBUILDING.—Rebuilding the refreshment room and café, at Platt Fields, for the T.C. City Architect, Town Hall, Manchester. Deposit £1 1s.

DECEMBER 29.—**Saltash.**—EXIT.—Providing a new exit at the Guildhall, for the T.C. Borough Surveyor, Guildhall, Saltash.

DECEMBER 29.—**Sheffield.**—HOUSES.—Erection of 50 additional houses on the Stubbin Estate, Firth Park, for the T.C. Mr. F. E. P Edwards, City Architect, Town Hall, Sheffield. Deposit £2 2s.

DECEMBER 30.—**Dublin.**—FACTORY CHIMNEY.—Construction of reinforced concrete chimney and underground flue at Broadstone locomotive works, for the Midland Great Western Railway Co. of Ireland. Mr. P. A. Hay, Secretary, Broadstone Station, Dublin.

DECEMBER 30.—**Ebbw Vale.**—CONVERSION.—Conversion of Army huts into temporary schools at (1) Tyllwyn School, Steelworks, Ebbw Vale; (2) Rassau School, Rassau, Beaufort; (3) Pontygof Schools, Ebbw Vale, for the U.D.C. Mr. P. I Davies, Surveyor, Council Offices, Ebbw Vale. Deposit £2 2s.

DECEMBER 30.—**Essex.**— BUILDING.— Extensions to the Loughton County High School, for the County Council. County Architect, Essex County Council, Old Court, Springfield, Chelmsford. Deposit, £3 3s.

DECEMBER 30.— **Inveraray.**—FOUNDATIONS.—Construction of foundations for war memorial. Mr. J. P. Munro, Honorary Secretary, War Memorial Committee, Inveraray.

DECEMBER 30.—**Leeds.**—ADDITIONS.—Alterations and additions to Fire Engine House, Fire Brigade Station, for the T.C. Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

DECEMBER 30.—**London, N.**—MUNICIPAL BUILDINGS.—Erection of municipal buildings in Upper-street, for the Metropolitan Borough of Islington. Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., Finsbury-pavement House, E.C.2. Deposit £3.

DECEMBER 30.—**Magherafelt.**—OFFICES.—Erection of offices and manager's residence, for the Belfast Banking Co. Messrs. Tulloch & Fitzsimons, architects, 21, Castle-place, Belfast. Deposit £2 2s.

DECEMBER 30.—**Newton-in-Makerfield.**—HOUSES.—Erection of sixteen Type "A" houses (in brick) at South Mesnes, Earlestown, for the U.D.C. Housing Director, Market Chambers, Earlestown.

✱DECEMBER 31.—**Chepstow.**—COTTAGES.—Erection of ten cottages on the Roggiet Housing Site, for the R.D.C. Mr. Fothergill Evans, Clerk to the Council, Union Offices, Chepstow. Deposit £5 5s.

DECEMBER 31.—**Chichester.**—FENCING.—For 250 yards run of oak pale fencing, 3 ft. high, two rails and vertical poles, together with 12 gates, complete, and 230 yards of cleft chestnut fencing, for the T.C. Mr. Frank J. Lobley, Surveyor, Chichester.

DECEMBER 31.—**Finchley.**—FENCING.—Erection at North Finchley of a quantity of oak fencing, together with gates and incidental works, for the U.D.C. Mr. Percival T. Harrison, Surveyor, Council Offices, Finchley, N.3.

JANUARY 2.—**Bucks.**—VARIOUS WORKS.—Repairs, &c., at (a) Manor Farm, Edgcott, and (b) Blockwater Farm, Chackmore, for the Bucks C.C. Mr. G. M. Odam, County Land Agent, 21, Walton-street, Aylesbury.

JANUARY 2.—**Ramsgate.**—HOUSES.—Erection of ten houses, for the T.C. Mr. W. Everard Healey, architect, 2A, Turner-street, Ramsgate. Deposit £2 2s.

JANUARY 3.—**London.**—BUILDING.—Erection of an X-ray room, nurses' convalescent room and lavatories at the St. Andrew's Hospital, Devon's-road, Bow, E.3, for the managers of the Poplar and Stepney Sick Asylum District St. Andrew's Hospital (Bow). Messrs. Andrews and Peascod, architects, 143, Bow-road, E.3. Deposit £2.

JANUARY 3.—**Loughborough.**—PAINTING.—Cleaning, painting, and papering certain parts of the Town Hall. Mr. W. Granger, Acting Borough Engineer, Town Hall, Loughborough.

✱JANUARY 4.—**Barking, E.**—ALTERATIONS.—Alteration to Company Headquarters, 4th Battalion, Essex Regiment, at 7 & 9, Queen's-road, Barking. Lt.-Col. E. W. Bradbridge, Secretary, Territorial Army Association, County of Essex, Market-road, Chelmsford. Deposit £2 2s.

JANUARY 4.—**Horncastle.**—BRIDGE.—Rebuilding a bridge near Lengton Hill on a road off Bardney-road, at Langton-by-Wragby, for the R.D.C. Mr. J. E. Chatterton, Clerk, Horncastle.

JANUARY 4.—**Rotherham.**—HOUSES.—Erection of 120 houses on Section "B" of the Doncaster-road housing site, for the T.C. Mr. Chas. A. Broadhead, Housing Architect, St. George's Hall, Rotherham. Deposit £2 2s.

JANUARY 6.—**Croydon (Surrey).**—BUILDING, HEATING ENGINEERS, BOILER MAKERS, &C.—Contract No. 1: Builders' work in connection with forming pipe ducts in corridors, boiler foundations, and sundry other works at the Borough Hospital. Contract No. 2: The supply, delivery and fixing of additional steam circulating mains, pumps, valves, and other steam fittings, &c., in the existing boiler house, corridors and blocks, at the Borough Hospital. Contract No. 3: The supply and delivery and fixing of one steel Lancashire boiler in the existing boiler house at the Borough Hospital, for the County Borough Council of Croydon. Borough Engineer, Town Hall, Croydon.

JANUARY 7.—**Eltham.**— HOUSES.— Contract D: Erection of 54 houses; Contract E: 44 houses, for the Council of the Metropolitan Borough of Woolwich on their Housing Estate at Eltham. Messrs. Young & Brown, quantity surveyors, Gwydyr Chambers, 104, High Holborn, W.C. 1. Deposit, £2 2s.

JANUARY 9.—**Darlington.**—HOUSES.—Laying-out an estate at Darlington, including roads, drainage, and the erection of 200 houses, for the North Eastern Railway Housing Trust. Mr. Arthur Pollard, Architect, North-Eastern Railway, York.

✱JANUARY 10.—**Grantham.**—HOUSES.—Erection of 12 houses, for the T.C. Mr. F. O. Donaldson, Borough Architect, Guildhall, Grantham.

JANUARY 10.— **Mynyddislwyn.**— HOUSES.— Erection of 130 houses at Mynyddislwyn (Bryn Site) for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

✱JANUARY 12.—**West Ham.**—HOUSES.—Erection of 28 houses in Cumberland-road, Plaistow, E., for the County Borough Council of West Ham. Borough Engineer, Town Hall, West Ham, E.15. Deposit £2.

JANUARY 13.—**West Cornforth.**—SCHOOL.—Erection of Infants' Council School at West Cornforth, for the Durham C.C. Mr. F. Willey, architect, 34, Old Elvet, Durham.

JANUARY 14.—**Harrogate.**—BOILER HOUSE.—Building boiler house, at the Gas Works, Ripon-road, for the Harrogate Gas Co. Mr. Frank H. Robinson, Engineer, Gas Office, James-street, Harrogate.

JANUARY 16.—**Cardiff.**—PAVILION.—Competitive designs and tenders for the supply and erection of a concert pavilion in Llandaff Fields, for the T.C. Mr. E. J. Elford, City Engineer, Cardiff. Deposit £2 2s.

JANUARY 25.—**Wandsworth, S.W.18.**—HOUSES.—(*a*) Erection of 82 non-parlour houses on the Watney Estate, Southfield, in groups comprising respectively 24, 28, and 30 houses; (*b*) 68 non-parlour houses on the Furzedown Estate, Tooting, in groups comprising respectively 14 and 54 houses. Watney Estate: Mr. G. L. Elkington, Norfolk House, 7, Laurence Pountney-hill, Cannon-street, E.C.4; Furzedown Estate: Mr. H. B. Elkington, Norfolk House, 7, Laurence Pountney-hill, Cannon-street, E.C.4. Deposit £2 2s. in respect of each estate.

FEBRUARY 1.—**Gosport.**—REBUILDING.—Rebuilding of the "Rose and Crown" public house, Hardway, for the Portsmouth United Breweries, Ltd. Mr. Walmesley, architect, 7, King's-terrace, Southsea.

NO DATE.—**Darton.**—MEMORIAL.—Designs and prices of monumental erections for suitable war memorial. Mr. George T. Bennett, secretary, Darton Hotel, Darton.

✱NO DATE.—**Kent.**—ALTERATIONS.—Adaptation of Chatham House, Ramsgate, for use by County School for Boys for the Kent Education Committee. Mr. W. H. Robinson, County Education Architect, Room 69, Sessions House, Maidstone. Deposit £2.

NO DATE.—**Wetherby.**—HOUSE.—Erection of stone residence, Wetherby. Mr. Fred Scatchard, architect, Bank-chambers, Castleforth.

FURNITURE, MATERIALS, etc.

DECEMBER 29.—**Croydon.**—MATERIALS.—Supply to the Board of Guardians of builders' materials, paints, &c. Mr. N. P. Walker, Clerk, Union Offices, Thornton Heath, Surrey.

DECEMBER 29.—**Denmark.**—MATERIALS.—Supply to the Danish State Railways of materials for paint. Department of Overseas Trade, 35, Old Queen-street, S.W.

DECEMBER 30.—**Dublin.**—FENCING.—Supply to the Midland Great Western Railway of Ireland Co. of 175 yards of unclimbable palisading. Mr. Percy A. Hay, Secretary, Broadstone Station, Dublin.

DECEMBER 31.—**Bexley.**—MATERIALS.—Supply to the U.D.C. of tar, highway materials, pipes and stores. Mr. W. T. Howse, Surveyor, Council Offices, Bexley Heath.

DECEMBER 31.—**Gloucester.**—MATERIALS.—Supply of materials for use on main roads, for the C.C. Surveyor, Shire Hall, Gloucester.

DECEMBER 31.—**London.**—TIMBER AND WOOD PAVING BLOCKS.—Applications are invited from importers, merchants and others for permission to be placed on the list of firms from whom the L.C.C. from time to time invites tenders for the supply of wood paving blocks, timber (for use in cars), and timber in log or parcel. General Manager, Tramways Department, 23, Belvedere-road, S.E. 1.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Plasterers' Labourers.
Aberdeen	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/11	1/5½ to 1/6½
Airdrie	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Alexandria	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Arbroath	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/5½
Ayr	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/5½
Bathgate	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/5½	1/5½ to 1/7
Blairgowrie	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—
Bo'ness	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/-	1/8
Coatbridge	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Dumbarton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½
Dumfries	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/6 to 1/7
Dundee	2/0½	2/0½	2/0½	2/0½	2/0½	2/4	2/1	1/7½
Dunfermline	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Duns	1/9	1/9	1/9	1/9	1/9	1/9	1/6	1/3 to 1/4
Edinburgh	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Falkirk	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Fort William	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	1/5
Galashiels	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	—	—
Glasgow	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½
Greenock	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/4½ to 1/7½
Hamilton	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½
‡Hawick	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	2/-	1/4½
Helensburgh	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Inverness	1/11½	—	1/11	1/11	1/11½	1/11	1/11	1/0 to 1/3†
Kilmarnock	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7
Kirkcaldy	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/6½
Kirkwall	1/9	1/9	1/9	1/9	1/9	1/9	—	1/2
Lanark	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7
Motherwell	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½
Perth	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/1	1/7½
Stirling	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/7½
Stirlingshire (Eastern District)	2/0½	2/0½	2/0½	2/0½	2/0½	2/4	2/1	1/7½
Wishaw	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	—	1/7½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 859. † Under unemployment relief scheme, 11d.
‡ The operatives at Hawick have resumed work at reduced rates noted above.

JANUARY 2.—**Horncastle.**—ROAD MATERIALS.—Supply of 2,585 tons of granite and 4,105 tons of slag, to the R.D.C. Mr. J. E. Chatterton, Clerk, Council Offices, Horncastle.

JANUARY 2.—**Loughborough.**—MATERIALS.—Supply to T.C. of granite rubble for road foundation, granite kerb (straight and circular), granite setts, stoneware pipes, cast-iron pipes, concrete materials. Mr. W. Granger, Acting Borough Surveyor, Town Hall, Loughborough.

JANUARY 3.—**London.**—WOOD BLOCKS.—Supply to L.C.C. of creosoted deal wood paving blocks, for use in the Tramways Department, for six months. General Manager, London County Council Tramways, 23, Belvedere-road, Lambeth, S.E. 1.

JANUARY 4.—**Leicester.**—MATERIALS.—Supply of building materials to the Board of Guardians. Poor-Law Institution, Leicester.

JANUARY 9.—**Liverpool.**—MATERIALS.—Supply to the Liverpool Overhead Railway Co. of stores for six months. Mr. E. J. Neachell, General Manager, 31, James-street, Liverpool.

JANUARY 23.—**Madras.**—STONEWARE PIPES.—Supply of 58 miles of stoneware pipes and specials varying from 4 in. to 18 in. Messrs. J. Mansergh & Sons, agents for the Madras Corporation, 5, Victoria-street, Westminster, S.W.

JANUARY 24.—**London, S.W. 1.**—LAVATORY FITTINGS.—(1) Supply of pedestal closets; (2) urinals; (3) lavatory basins and sinks; (4) water waste preventor cisterns; (5) w.c. seats. Contracts Branch, H.M. Office of Works, London, S.W. 1.

ENGINEERING, IRON AND STEEL.

DECEMBER 27.—**Edinburgh.**—TRUCKS, &c.—Supply of 53 trucks and electrical equipment of cars to the T.C. Tramways Manager, 2, St. James-square, Edinburgh.

DECEMBER 27.—**Wincanton.**—WATER SUPPLY.—Supplying, laying cast-iron, &c., water mains; the construction of a well, pumping station, reinforced concrete service reservoir, &c., for the R.D.C. Messrs. A. P. I. Cotterell & Edson, engineers, 17, Old Queen-street, Westminster, S.W. 1. Deposit £5 5s.

DECEMBER 28.—**Liverpool.**—VARIOUS WORKS.—For the following works at the Walton Institution, for the West Derby Board of Guardians: (1) Hot-water heating for water supply and cooking plant; (2) electric light and power installation; (3) boilers, stokers, steam and exhaust piping, &c.; (4) electric lift service; (6) telephone installation; (7) refrigerating plant, &c. Mr. E. B. Bailey, architect, 37, Moorfields, Liverpool. Deposit, £1 1s. per contract.

DECEMBER 31.—**London.**—TRAMWAY MATERIALS.—The London County Council invites applications from persons and firms desirous of being placed on the lists from whom tenders for supplies, electrical equipment, &c., for the Tramways Department will be invited. General Manager, 23, Belvedere-road, S.E.

DECEMBER 31.—**Northumberland.**—LIGHTING AND TELEPHONES.—The Northern Counties Joint Poor-Law Committee invite tenders for (1) outside electric lighting to the main drive at Prudhoe Hall Colony; (2) telephone installation between six detached homes, &c. Messrs. Morton & Burrell, architects, of South Shields. Deposit £5.

DECEMBER 31.—**Siam.**—STEELWORK.—Supply of superstructures of steel railway bridges, for the Siamese State Railways. Messrs. C. P. Sandberg, 40, Grosvenor-gardens, London, S.W. 1. Charge 10s.

JANUARY 2.—**Birmingham.**—SALVAGE PLANT.—(1) (*a*) eight-cell destructor in two units, with screening plant, belt conveyors, two boilers, feed pumps, fans, &c.; (*b*) Foundations on concrete pile; (*c*) retaining wall for Approach-road, 20-ton weighbridge, and office; (*d*) brick chimney; (*e*) clinker crushing and screening plant. (2) Electric garage, weighbridge, and office. (3) Canal arm, for the T.C. Mr. James Jackson, Superintendent, Salvage Department, Council House, Birmingham. Deposit £1 1s.

JANUARY 2.—**Norwich.**—BRIDGE.—For steel superstructure and bridge across the River Wensum, for the T.C. Mr. A. E. Collins, City Engineer, Norwich. Deposit £25.

JANUARY 3.—**London.**—PIPES.—Supply to the High Commissioner for India of wrought iron pipes. Director-General, India Store Department, Belvedere-road, Lambeth, S.E.1.

JANUARY 3. — **London.**—BORING MACHINES.—Supply to the High Commissioner for India of boring machines. Director-General, India Store Department, Belvedere-road, Lambeth, S.E.1.

JANUARY 4.—**Denmark.**—Supply to the Danish State Railways of about 20,000 tons of rails and fastenings. Mr. P. Banekontor, Gl. Kongevej 1, 3' Sal, Copenhagen B. Charge. 15 Danish crowns.

JANUARY 4. **Mitcham.**—LAUNDRY PLANT.—Supplying and fixing a 15½ h.p. Crossley gas engine, a rotary washing machine, extensions to shafting, &c., at the Isolation Hospital, Beddington Corner, Mitcham Junction, for the Wandle Valley Joint Hospital Board. Mr. R. M. Chart, Surveyor, Lower Green, Mitcham, Surrey.

JANUARY 5.—**Manchester.**—TURNTABLES.—Supply and erection of standard gauge railway two-way turntables (two of 20 tons capacity and two of 40 tons capacity) at Barton Power Station, for the T.C. Mr. F. E. Hughes, Secretary, Electricity Dept., Town Hall, Manchester. Deposit £1 1s.

JANUARY 6.—**Croydon.**—HEATING INSTALLATION.—(1) Builders' work in connection with forming pipe ducts in corridors, boiler foundations, &c., at the Borough Hospital; (2) supply and fixing of additional steam circulating mains, pumps, valves, and other steam fittings, &c., in the existing boiler house, corridors and blocks; (3) supply and fixing of one steel Lancashire boiler. Borough Engineer, Town Hall, Croydon. Deposit £2 2s. each.

JANUARY 6.—**South Africa.**—STEEL TRUSSES.—Supply of 12 steel trusses for 40 ft. clear span, and 12 steel trusses for 42 ft. 6 in. clear span, for Vereeniging main pumping station of the Rand Water Board. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

JANUARY 6.—**York.**—STEELWORK.—Supply of steelwork for the renewal of four small bridges, for the North-Eastern Railway Co. Mr. C. F. Bengough, Chief Engineer, York.

JANUARY 9.—**London.**—PUMP, &c.—Centrifugal pumps and oil or gas engines, for a pumping station to be erected at Hammersmith, for the L.C.C. Chief Engineer, County Hall, Spring-gardens, Charing Cross, S.W. Deposit £5.

JANUARY 10.—**Cowdenbeath.**—FENCING. — Supply and erection of (1) wrought iron railings and gates; (2) stob and wire fencing, on housing site, for the T.C. Mr. C. A. Alexander, Burgh Surveyor, Town House, Cowdenbeath. Deposit £1 1s. each contract.

JANUARY 10.—**London.**—STEEL TUBES.—Supply to the Metropolitan Water Board of 112 feet of 48 in. dia. socket and spigot lap-welded steel tube in 16 ft. and 8 ft. lengths. Offices of the Board (Room 150), New River Head, 173, Rosebery-avenue, E.C.1.

JANUARY 10.—**New Zealand.**—GATES, &c.—Supply to the Auckland Harbour Board of mild steel or iron gates and fencing for Quay-street frontage, Auckland. Messrs. W. & A. McArthur, Ltd., Canberra House, 18-19, Silk-street, London, E.C. Deposit £50.

JANUARY 12.—**London.**—ELECTRIC LIFT.—Provision and erection of an electric passenger lift, capable of dealing with a load of 11¼ cwt., at Geoffrey House, Tabard Garden Estate, Bermondsey. Chief Engineer, Gloucester House, 19, Charing Cross, W.C. Deposit £1.

JANUARY 13.—**Belgium.**—DOCK.—Construction of a dry dock at Langerbrugge, near Ghent. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

JANUARY 16.—**Belgium.**—CANAL.—Construction of new channel from the Scheldt to the Docks at Antwerp. Department of Overseas Trade, 35, Old Queen-street, S.W.

JANUARY 17.—**Wallasey.**—GAS PLANT.—Supply of purifiers at Gasworks. Mr. J. H. Crowther, Gasworks, Limekiln-lane, Wallasey.

JANUARY 18.—**London.**—WATER PLANT.—Supply to the Metropolitan Water Board of Lancashire boilers, superheater, piping and feed pumps at Deptford, S.E.3. Mr. Henry E. Stilgoe, Chief Engineer, 173, Rosebery-avenue, E.C. 1. Deposit £1 1s.

JANUARY 30.—**Sunderland.**—CONCRETE TANK.—Construction of a mass concrete gasholder tank, 127 ft. 6 in. dia. by 25 ft. 8 in. deep, for the Sunderland Gas Co. Mr. C. D. Drury, engineer, Hendon Gas Works, Sunderland. Deposit £2 2s.

FEBRUARY 1.—**Siam.**—RAILWAY MATERIAL.—Supply to the Siam State Railways of 500 pairs wheels and axles. Messrs. C. P. Sandberg, 40, Grosvenor-gardens, London, S.W. 1. Charge £1.

FEBRUARY 10.—**Johannesburg.**—WATER METERS.—Supply to the T.C. of 1,200 ¾ in. meters. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

FEBRUARY 15.—**Australia.**—TELEGRAPH MATERIAL.—Supply of telegraph apparatus and parts to the Commonwealth of Australia. Supply Officer, Australia House, Strand, London, W.C. 2.

ROAD, SANITARY, AND WATER WORKS.

DECEMBER 28.—**Birmingham.**—ROADS.—Construction of tarred macadam carriageways, concrete slab and tarred limestone footpath paving, and other works in Philip Sidney-road, Geoffrey-road, and cul-de-sac off Geoffrey-road, Sparkhill, for the T.C. Mr. H. H. Humphries, City Engineer, The Council House, Birmingham. Deposit £2.

DECEMBER 28.—**Devon.**—ROADS.—For steam rolling and scarifying during six months, for the C.C. Mr. R. M. Stone, County Surveyor (Northern Division), 9A, High-street, Barnstaple.

DECEMBER 28.—**Hebburn.**—ROADS.—Widening and re-making wagonway road, for the U.D.C. Mr. H. Paterson, Surveyor, Council Offices, Hebburn.

DECEMBER 28.—**Llantrissant.**—SEWERAGE WORKS.—Construction of Llantwit Fardre sewerage and sewage disposal works, for the Llantrisant and Llantwit Fardre R.D.C. Messrs. Thomas & Morgan & Partners, engineers, 23, Gelliwastad-road, Pontypridd. Deposit £10 10s.

DECEMBER 29.—**Mold.**—SANITARY.—Conversion of latrines and alterations to drainage at Northop Hall Council School, for the Flint C.C. Surveyor, County Buildings, Mold. Deposit £1.

DECEMBER 29.—**Prestatyn.**—SEWERAGE WORKS.—Construction of stoneware and cast-iron pipe sewers, reinforced concrete storage tank, cast-iron outfall pipe sewer, &c., for the U.D.C. Mr. John H. Blizard (Messrs. Lemon & Blizard), 7, Victoria-street, Westminster, S.W.1. Deposit £5 5s.

DECEMBER 30.—**Kensington.**—PAVING.—Providing and laying creosoted deal blocks and, where required, a new concrete foundation in sections of Old Brompton-road, for the B.C. Borough Engineer, Town Hall, Kensington, W.8.

DECEMBER 30.—**Merton.**—ROADS.—(*a*) Supplying and laying about 5,000 sq. yards of tar-macadam; (*b*) Supplying and laying about 2,500 sq. yards of concrete flag paving, at housing site, for the U.D.C. Mr. G. Jerram, Surveyor, Council Offices, Kingston-road, Merton, S.W.19.

DECEMBER 31.—**Cowbridge.**—ROADS.—For improvement at Gilestone, for the R.D.C. Mr. G. E. Morris, surveyor, 79, Eastgate-street, Cowbridge. Deposit £2 2s.

DECEMBER 31.—**Dartford.**—SEWERAGE WORKS.—Construction of precipitation and storage tanks, sewer, buildings and other works at Long Reach, Dartford, for the West Kent Main Sewerage Board. Mr. Arthur B. Coomber, Secretary, Offices of the Board, Park House, Bromley. Deposit £5.

DECEMBER 31.—**Walsall.**—SEWER.—Construction of about 213 yards of 9 in. stoneware sewer with manholes, in the Walsall-road, Aldridge, for the R.D.C. Mr. W. P. Young, Surveyor, Daw End, Rushall, Walsall. Deposit £2 2s.

JANUARY 1. — **Beverley.** — SEWER. — Construction of a section of a new outfall sewer along the Beck Side, for the T.C. Mr. J. Gould Smith, Borough Surveyor, Beverley.

JANUARY 1.—**Hartland.**—DRAINAGE.—For drainage scheme at the Parish Church. Mr. F. J. Wilton, Myrtle Cottage, Hartland.

JANUARY 2.—**Eltham.**—SANITARY.—Emptying of cesspools in parish of Lyminge, for the R.D.C. Mr. George N. Newport, Council Offices, Lyminge.

JANUARY 3.—**Cramlington.**—SEWERS, &c.—Laying of 5,150 lineal yards of sewer with sanitary pipes at Shankhouse and East Hartford, construction of sedimentation tanks, &c., at East Hartford, for the U.D.C. Mr. A. S. Dinning, engineer, 21, Ellison-place, Newcastle-upon-Tyne. Deposit £2 2s.

JANUARY 4.—**Penybont.**—SEWERAGE WORKS.—Construction of Pencoed and Coychurch higher joint sewerage and sewage disposal works, and Pencoed branch sewers, for the R.D.C. Major T. J. Moss-Flower, engineer, Carlton Chambers, Bristol. Deposit £10.

JANUARY 4.—**Salisbury.**—ROADS.—Executing certain works in Bedford-road, Russell-road and Highbury-avenue under the Private Street Works Act, for the T.C. Mr. W. J. Goodwin, City Engineer, Municipal Offices, Salisbury. Deposit £1 1s.

JANUARY 7.—**Eyemouth.**—ROADS.—Roads, drains, sewers, and water mains, in connection with 12 houses, for the T.C. Messrs. Charles Mitchell & Telfer, architects, 2, Randolph-crescent, Edinburgh. Deposit £1 1s.

JANUARY 7.—**Oswestry.**—WATER MAINS.—Laying 1,977 yards of 4 in. and 235 yards of 3 in. cast-iron water mains in the Parish of St. Martins; supply of 4 in. and 3 in. water mains, in 9 ft. and 12 ft. lengths. Messrs. Berrington, Son & Watney, 4, Memorial Hall, Oswestry. Deposit £2 2s.

JANUARY 7.—**Tadcaster.**—WATER MAINS.—Extension to water mains at Micklefield and Ledston Luck, for the R.D.C. Mr. E. Thackray, Water Inspector, Station-road, Kippax.

NO DATE.—**Swansea.**—ROADS.—1. Road widening and improvement works; 2, sewerage and service water drainage works, for the T.C. Borough Engineer, Guildhall, Swansea.

Competitions.

(*See Competition News, page* 843)

Auction Sales, Tenders, etc.

JANUARY 25.—**Ealing, W.**—Messrs. Knight, Frank & Rutley will offer for sale, as a whole or in lots (unless previously sold privately), freehold factory site, with about 688 feet frontage to Pope's-lane, the whole extending to an area of about 9¼ acres, situate about 10 minutes from Acton Town and South Ealing Stations. Auctioneers, 20, Hanover-square, W.1.

Public Appointments.

DECEMBER 29.—**Swansea.**—Temporary Architectural Draughtsman required for Borough Architect's Department. Mr. Ernest E. Morgan, A.R.I.B.A., Borough Architect, 3, Prospect-place, Swansea.

JANUARY 16.—**London, S.W.4.**—Principal required of the London County Council School of Building, Ferndale-road, Clapham, S.W.4. Salary scale £850 to £1,000 a year by annual increments of £50. Apply Education Officer (T.1A), New County Hall, S.E.1.

Local Authorities and Building Lines.

A point in connection with the erection of a building at Brentwood has been raised at a meeting of the Billericay Rural District Council. Messrs. Moy & Co. recently commenced the erection of an office on property of the G.E.R. Co. on the main road near Brentwood Station. The matter was brought to the notice of the Council, which had not been asked to approve the plans, and it was decided to inform Messrs. Moy that the Council could only agree to approve the building as a temporary structure, to be removed if the Council wished, and for this purpose the Council asked Messrs. Moy and the G.E.R. Co. to enter into an agreement. The former were quite willing but the latter refused.

At last week's meeting of the Council, Mr. W. C. Inman, architect, and a representative of Messrs. Moy interviewed the Council.

The Chairman explained that the difficulty which had arisen arose over the building line, the proposed office coming in front of this by about 10 ft. They had to look to the future, and must see that there was no obstruction. They were willing to waive the point, however, provided an agreement was entered into, but such an agreement was useless unless also entered into by the Railway Co., who were the ground landlords. The G.E.R. wrote that they could not be parties to the agreement, as Messrs. Moy were the building owners. They would not, however, raise any objection to Messrs. Moy signing an agreement provided this was not inconsistent with the tenancy agreement.

The Chairman pointed out that Messrs. Moy commenced building at their own risk, as the plans had not been approved.

Mr. Inman said he was under the impression that there was no need to get the sanction of the Council, as the building would be on the property of the Railway Co.

It was decided that both the Council and Messrs. Moy should again communicate with the G.E.R. with a view to inducing it to alter its decision.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ABERDEEN.—The T.C. has authorised application being made for a Provisional Order under the Private Legislation Procedure (Scotland) Act, 1899, "to construct additional tramways and a new street or road; to borrow further moneys for street works and the extension of the esplanade, and for the tramway and gas undertakings; and to make provision for other purposes."

AYLESBURY.—Plans passed by T.C.: Additions to the Croft, Walton-street, for Mr. Sale; alterations, &c., to the Bull's Head Hotel for Aylesbury Brewery Co.; new oil store, &c., in Mill-street, for the Shell Mex, Ltd.

BANBURY.—Plans passed by T.C.: Motor lorry shed at station garage, Bridge-street, for Mr. H. O. White; sanitary conveniences at Unitarian Chapel, Horse Fair; cart shed on land adjoining the Great Western Railway goods siding, for Mr. J. H. Turner.

BARNSLEY.—Plans have been approved for alterations and additions to the "Three Cranes" Hotel, Eldon-street. The architect is Mr. Raper, of Mount Vernon-road, Barnsley.—Plans have been approved for alterations and additions to the "White Hart" Hotel, Peel-square. The architect is Mr. Raper, Mount Vernon-road, Barnsley.

BIRKENHEAD.—The Justices have granted a licence for a cinema building proposed to be erected in Church-road, Higher Tranmere. The new building will accommodate 1,100 people.

BIRMINGHAM.—The Baths Committee has decided to carry out the preliminary work in connection with the schemes for the erection of open-air baths at Harborne and King's Heath.——At the last sitting of the T.C. it was decided to seek sanction to borrow £106,379 to complete the work of improving the Hockley Brook.

BOGNOR.—An inquiry by the Minister of Health has been held into the application of the U.D.C. for sanction to the borrowing of £22,000 for the purpose of a scheme which includes powers for making pleasure grounds, winter gardens, with music pavilion, cinema theatre, baths, &c.

BO'NESS.—The Scottish Board of Health have authorised the erection at Craigallan site, Bo'ness, of 32 houses of 3, 4, and 5 apartments. This is an addition to the 24 already built at Marchlands.

BRIGHTON.—The T.C. has decided to erect 32 houses in the Queen's Park-road.

BROTTON.—The Hospital Committee of the U.D.C. is to consider a proposal to add a new wing to the isolation hospital at Lingdale.

BURY ST. EDMUNDS.—The T.C. has adopted the plans of the Surveyor for the construction of an open-air swimming bath and slipper baths, at an estimated cost of £2,688.

CARLISLE.—The Wesleyan Chapel Committee has approved the erection of a new chapel in Fisher-street at an estimated cost of £20,000, and will make a grant of £6,000.

CLECKHEATON.—Plans passed by U.D.C.: Alterations to the sanitary convenience at the Horncastle Inn; house at Halifax-road, Hightown, for Mr. J. Horkin; bathroom and lavatory at the "British Oak" Inn, Liversedge; cottage at Windy Ridge Mills, for Northern Woollen Mills, Ltd.; alterations to the "Bull's Head" Inn, Westgate, Cleckheaton; and additions to New Lane Mills, Moorside, Cleckheaton, for Windwell and Scourit, Ltd.

CROYDON.—Plans passed by B.C.: Mr. J. C. Mayo, 20, Lincoln-road, dwelling house, Monks Orchard Estate; J. Carmichael (Contractors), Ltd., additions, "Sidlaw," Canning-road; Mr. C. H. Ridge, 20, Moreton-road, alterations and additions, "Winchester," Radcliffe-road; Mr. R. B. Manser, 100, Lower Addiscombe-road, additions, Nos. 55, 57, 59, 61, Teevan-road; Mr. C. H. Taylor, "Eastgate," Sefton-road, alterations to two houses in course of erection; Mr. C. Banks, 16, Oakfield-road, alterations converting existing building into garage, Dering-road; Messrs. Rutherford & Dore, bungalow, Monks Orchard Estate; Messrs. Paish Tyler & Crump, 1, Addiscombe-road, alterations to offices converting two premises into one; Mr. H. G. Hollands, 76, Lower Addiscombe-road, motor garage, 34, Clyde-road; Mr. H. E. Davey, 49, Manor-road, conversion of house into flats, 113, Central Hill; Mr. C. H. Gibson, Ltd., 124, George-street, additional bays, Brickwood-road; Messrs. Bethell & Swannell, 1, Broad-street Buildings, Liverpool-street, E.C.2, dairy, London-road, rear of 69-71; Mr. W. V. Smith, 64, Selsdon-road, shop on forecourt, 281, Brighton-road.

CUDWORTH.—Plans have been approved for the erection of a new cinema at Cudworth, near Barnsley. The architect is Mr. P. A. Hinchliffe, of Barnsley.

DOVER.—Plans passed by T.C.: Mr. Beaufoy, garage at 203, London-road, for Mr. W. J. Bussey; Mr. E. Lewis, work at "Buckland" rectory.——Plans by Mr. W. Bromley for six houses in Whitfield-avenue are before the surveyor.——Plans for an addition to the parish school have been sent to the Kent Education Committee by the managers.

GLASGOW.—The Housing Committee has received a letter from the Scottish Board of Health to the effect that 400 houses had been allocated to Glasgow. The meeting remitted to the Sub-Committee on Ground and Properties to consider where the houses should be erected.

HOYLAND COMMON.—It is proposed to erect a new cinema at Hoyland Common, near Barnsley. The architect is Mr. Pascal J. Stunlet, 14, Saville-row, Newcastle-on-Tyne.

LONDON (CAMBERWELL).—Drainage applications passed by the B.C.: At 5 and 6, Graces Mews, for Messrs. Dowton & Co.; at 47 and 59, Burbage-road, for Mr. Williams; 11 and 13, Albany-road, for Mr. Morgan; 61 and 63, Queen's-road, for Mr. Clarke; Sunray-avenue and Red Post Hill, for the Camberwell Housing Estate; 77 and 79, Ansdele-road, for Messrs. Davey & Son.

LONDON (WESTMINSTER).—The City Council has agreed to let the site of St. James's Vestry Hall to the London Joint City and Midland Bank onaneighty years' building lease.——Messrs. Liberty & Co. have informed the Westminster C.C. that they are expecting to commence rebuilding on the whole of the site, 1 & 9, Argyll-place and 23, Great Marlborough-street.

LOWESTOFT.—The Sea Defence Committee is seeking for grants to replace part of the old Douglas Wall on the North Beach, and to build a new groyne, at a cost of £2,500 and for the strengthening of the wall at a cost of £2,600.—The Ministry of Health has sanctioned the borrowing of £4,759 and £2,321 for the Oulton Broad drainage scheme.—Plans passed by T.C.: From D. Strangward Smith for bungalow, Beccles-road; from United Automobile Services, Ltd., for Smith's shop, Laundry-lane.

MEASBRO' DYKE.—It is proposed to erect a new club and institute at Measbro' Dyke, near Barnsley. The architect is Mr. G. N. Mellor, of Ardsley-hill, Stairfoot, near Barnsley.

NEWCASTLE-ON-TYNE.—At a meeting of the Estate and Property Committee it was decided to recommend the Council to invite a local firm of architects to prepare plans showing how the site of the Northumberland Baths could be most advantageously used for a bath and a public concert hall.

PERU.—The *Manchester Guardian* is authoritatively informed that the concessions granted by the Peruvian Government to Mr. Robert William Dunsmuir, of British Columbia, will entail an expenditure on the construction of railways, &c., covering a distance of some 3,000 kilometres, of about £13,500,000, spread over seven years. It is proposed that the whole of the materials, tools and machinery used in the construction, as well as the rolling-stock, shall be bought in Great Britain, and that British labour will be employed in the actual construction.

PORT GLASGOW.—The T.C. has received intimation that it can proceed with the erection of a further 158 houses.

SCARBOROUGH.—A company is in course of formation to carry out the erection of a cinema, roof gardens and shops on the South Cliff, on the site at the corner of West-street and Ramshill-road. The property was purchased by Messrs. Harry Johnson and James Cooper, three years ago, with a view to development, and Mr. W. T. Whipp, architect, has prepared plans showing a cinema capable of holding 800 people, together with the other features mentioned. The plans have been approved by the Corporation. It is hoped to start building early in the New Year.

SHANGHAI.—The Harbour Investigation Commission's report, now issued, recommends the immediate expenditure of £2,000,000 upon the harbour, including improvements to the landing-stages, increasing berthing facilities and dredging, to enable ships drawing 33 ft. of water to enter.

SHREWSBURY.—The T.C. has adopted a scheme for improving the river bank and constructing a promenade.

SPALDING.—At a special meeting of the U.D.C. it was decided to make application to the Ministry of Health for a grant under the unemployment scheme of the Government to carry out the sewerage works at Spalding which had been approved in 1913, but held in abeyance owing to the war. It was stated that the cost of the scheme in 1913 was estimated at £43,000, but the estimated cost of the scheme now was £70,000. The Government would contribute a total of nearly £20,000 or about 25 per cent. of the full cost.

STAIRFOOT.—Plans have been approved for the erection of a bungalow in Cork-lane, Stairfoot, near Barnsley. The architect is Mr. Swann, of Stairfoot, near Barnsley.

STANDISH.—The U.D.C. has passed plans for a cinema and dancing hall in Preston-road, for the Standish Amusements Co.

STANBURY.—Plans have been prepared for extensions to the hospital on the Upper Heights, Stanbury, Keithley. The architect is Mr. Frank Atkinson, Old Bank Chambers, Bingley, Yorkshire.

WIGTON.—The R.D.C. has passed plans for a new rectory at Bowness-on-Solway.

WORSBORO' BRIDGE.—Plans have been approved for the erection of a new cinema at Worsboro' Bridge, near Barnsley. The architect is Mr. P. A. Hinchliffe, 14, Regent-street, Barnsley.

YARMOUTH.—The T.C. has decided to apply for a loan of £7,500 for the completion of the beach lawn.

FIRES.

LEWES.—Buildings in the occupation of Mr. T. Rowlands, off Ham-lane, have been destroyed by fire.

PAISLEY.—Damage estimated at between £6,000 and £7,000 was caused by an outbreak of fire in the Cumberland Mills, Causeyside-street, Paisley, occupied by John Storie, manufacturers.

SHEFFIELD.—A serious fire has occurred at the premises of Messrs. George Wish, Ltd., manufacturing silversmiths, of Denmark Works, Burgess-street.

* See also our List of Contracts, Competitions, etc

NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

DOMUS BUILDING CO., LTD. (177,126) Registered Oct. 5. Providence Mills, Halifax-road, Staincliffe, Dewsbury. Nominal capital, £10,000.

H. A. PIERPOINT, LTD. (177,150). Registered Oct. 6. Builders, contractors, and decorators. Nominal capital, £3,000.

SCORTON BRICK AND TILE WORKS, LTD. (177,163). Registered Oct. 6. Nominal capital, £2,000.

GOODIER, DANIELS & CO., LTD. (177,149). Registered Oct. 6. William-street, Didsbury, Manchester. Plumbers, painters, plasterers and decorators. Nominal capital, £2,000.

HANWOOD BRICKWORKS CO., LTD. (177,169). Registered Oct. 7. Hanwood, near Shrewsbury, Salop. Nominal capital, £6,000.

JOSEPH DARCH, LTD. (177,171). Registered Oct. 7. 18–19, Whitefriars-street, E.C.4. Builders and contractors. Nominal capital, £3,000.

GEORGE WRIGHT (ROTHERHAM), LTD. (177,168). Registered Oct. 7. General iron founders and fireplace manufacturers. Nominal capital, £15,000.

W. T. MITCHELL & CO., LTD. (177,190). Registered Oct. 8. 8, Manor-road, Stoke Newington, N.16. Consulting engineers and manufacturers of geysers or hot-water heaters. Nominal capital, £5,000.

GARSTON IDEAL HOMES, LTD. (177,185). Registered Oct. 8. Rutherglen, Clarendon-road, Watford, Herts. Builders, architects and surveyors. Nominal capital, £2,500.

ORNASTELE COMPANY, LTD. (177,188). Registered Oct. 8. 3 and 4, Chapel-chambers, Castle-street, Swansea. Manufacturers of steel ceilings and stamped sheets. Nominal capital, £10,000.

EX-OFFICERS BUILDING CO., LTD. (177,213). Registered October 11. Red May Cottage, Langstone, near Newport, Mon. Builders and contractors. Nominal capital, £100.

NEWBURN SAND & GRAVEL CO., LTD. (177,233). Registered October 12. Sandhills, Newburn-on-Tyne. Sand and gravel merchants. Nominal capital, £2,000.

DURASTIC BITUMINOUS PAINT CO., LTD. (177,250.) Registered October 13. 52, Queen Victoria-street, E.C.4. Manufacturers of paints, oils and varnishes. Nominal capital, £100.

MARSHALL, LEGGE & CO., LTD. (177,352). Registered October 19. Dealers in bricks, stone, slate, &c. Nominal capital, £3,000.

EASTON LAND & HOUSING CORPORATION, LTD. (177,418). Registered October 22. Easton House, 75–76, Wells-street, Oxford-street, W. Builders and contractors. Nominal capital, £10,000.

W. JAMES & SON (ERDINGTON), LTD. (177,482). Registered October 25. Builders and contractors. Nominal capital, £5,000.

WHITE & LAMBERT, LTD. (177,548). Registered October 28. Arcade Chambers, Friar-street, Reading. Surveyors, architects, and estate and property agents Nominal capital, £1,000.

Calendars for 1922.

A wall calendar for 1922, with a tear-off page (illustrated with a humorous picture) for each month, has been issued by Messrs. Freeman's, roofing contractors, of Cartwright-street, Wolverhampton.

Sir W. A. Rose & Co., Ltd., of 7, Fenchurch-avenue, E.C. 3, have issued a small wall calendar for 1922.

We have received from Messrs. Abdulla & Co., Ltd., of 173, New Bond-street, W., a large wall calendar for next year; each of the twelve sheets is illustrated with a well-printed picture representing typical scenes in different countries. In accordance with the usual annual practice of the firm, 10,000 copies are offered for sale, at the price of 1s. 6d., for the benefit of the British Red Cross Society, Messrs. Abdulla & Co. bearing the expenses of production.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue various revisions have been made.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s. d.

Best Stocks 4 18 0

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	3 12 0	Best Blue Pressed Staffs.	11 1 6
Do. grooved for plaster.....	3 14 0	Do. Bullnose ..	11 11 6
Do. Bullnose ..	4 7 0	Blue Wire Cuts	9 4 0
Best Stourbridge Fire bricks:—			
2½ in.	11 18 0	3 in.	14 2 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers ..	26 0 0	D'ble Str'tch'rs	34 10 0
		D'ble Headers	31 10 0
		One Side and two Ends ..	35 10 0
Headers.....	25 10 0	Two Sides and one End	36 10 0
Quoins, Bullnose and 4½in. Flats	32 10 0	Splays and Squints.....	34 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Red Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	14 0	per yard,	delivered 2 miles radius Paddington.
Pit Sand	17 0	" "	
Thames Sand	19 0	" "	
Best Washed Sand	19 0	" "	
¾ in. Shingle for Ferro-Concrete	19 0	" "	
½ in. " "	20 0	" "	

Per ton delivered in London area in full van loads.

	£ s. d.	£ s. d.
Best Portland Cement, British Standard Specification Test.....	3 12 6 ..	4 8 0
70/6 alongside at Vauxhall in 80-ton lots.		
Ferrocrete per ton extra on above		10 0

NOTE.—The sacks are charged at 2s. 3d. each and credited at 2s. each if returned in good condition within three months, carriage paid.

Best Ground Blue Lias Lime 2 12 6 at rly. depot.
Grey Stone Lime 62s. 6d. per ton delivered in City and Central districts.
Stourbridge Fireclay in s'cks 37s. 8d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube.....	3 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	3 5½
Do. do. delivered on road wagons at Nine Elms Depot	3 6½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 11½
Do. do. delivered on road wagons at above stations, per ft. cube.....	5 0½
White basebed, 3d. per ft. cube extra.	
NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) .....Per Ft. Super	7 4½
6 in. rubbed two sides, ditto ..... "	8 0½
3 in. sawn two sides slabs (random sizes) "	3 3
2 in. to 2½ in. sawn one side slabs (random sizes) ..... "	2 1
1½ in. to 2 in. ditto, ditto ..... "	1 9
HARD YORK— Delivered at any Goods Station London.	
Scappled random blocks .....Per Ft. Cube	8 0
6 in. sawn two sides landings to sizes (under 40ft. super.) .....Per Ft. Super	7 0
6 in. sawn two sides ditto ..... "	8 0
4 in. sawn two sides slabs (random sizes) "	3 11
3 in. ditto, ditto "	3 1
2 in. self-faced random flags ..Per Yard Super	10 6

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11.....	40 0	per standard
4 × 9	35 0	"
4 × 8	30 0	"
4 × 7	30 0	"
3 × 8	30 0	"
3 × 7	30 0	"
2½ × 7	25 0	"
3 × 6	25 0	"
3 × 11	37 10	"
2 × 11	38 0	"
3 × 9	35 0	"
2½ × 9	35 0	"
3 × 4½.....	25 0	"
3 × 4	22 0	"

PLANED BOARDS.

1 × 11	52 10	"
1 × 9	47 10	"

PLAIN EDGE FLOORING.

Inches		
¾	20/-	per square
⅞	22/6	"
1	25/-	"
1¼	32/-	"
1½	37/6	"

TONGUED AND GROOVED FLOORING.

Inches		
1	25/-	per square
1¼	32/-	"
1½	37/6	"

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
¾	17/6	per square
⅞	20/-	"
1	27/6	"

BATTENS.

Inches	s. d.	
¾ × 2	3 3	per 100 ft.

SAWN LATHS.

Per bundle	0 4	0

Dry Wainscot Oak, per ft. super, as inch	0 2 6	to	0 3	0	
¼ in. do. do.	0 1 10½	to	0 2	6	
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 2 3	to	0 3	0	
Cuba Mahogany	0 3 6	to	0 4	0	
Teak (Rangoon, Moulmein or Java), per load.. ..	52 10 0	to	55 0	0	
American Whitewood planks, per ft. cube ..	0 16 0	to	0 18	0	
Best Scotch Glue, per cwt.	9 5 0	to	—		
Liquid Glue, per cwt.....	5 3 0	to	6 10	0	

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	56 10 0
" "	22 by 12	46 0 0
First quality " "	22 by 11	42 10 0
" "	20 by 12	42 0 0
Best Blue Portmadoc	20 by 10	36 10 0
" "	18 by 10	29 10 0
First quality "	18 by 9	24 5 0
" "	16 by 10	22 15 0
" "	16 by 8	18 0 0

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district.....	7 0 0
Ditto hand-made ditto.....	7 15 0
Ornamental ditto	8 0 0
Hip and valley tiles (per dozen)	0 12 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	17 0 0
Plain Compound Girders	20 0 0
" Stanchions	23 0 0
In Roof Work	28 0 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £15 net value delivered direct from works. 5 per cent. less above gross discounts, carriage forward if sent from London stocks.)

	Tubes. ½" to 2".	2½" to 6".	Fittings. ½" to 2".	2½" to 6".
Gas.....	37½	40 ..	35	40
Water	30	32½ ..	30	37½
Steam	22½	25 ..	25	35
Galv'd Gas	21½	25 ..	27½	32½
" Water	12½	16½ ..	22½	30
" Steam	3½	7½ ..	17½	27½

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.		Bends, stock angles. s. d.		Branches, stock angles. s. d.	
2 in. per yd. in 6fts plain	5 1	..	3 7	..	4 4	
2½ in. "	.. 6 1	..	3 11	..	5 5	
3 in. "	.. 7 3	..	4 4	..	6 6	
3½ in. "	.. 7 11	..	5 5	..	7 6	
4 in. "	.. 9 1½	..	6 1	..	8 7	

RAIN-WATER PIPES, &c.

	Pipe. s. d.		Bends, stock angles. s. d.		Branches, stock angles. s. d.	
2 in. per yd. in 6fts. plain	3 9	..	2 2	..	3 0	
2½ in. " "	.. 4 2	..	2 7	..	3 6	
3 in. " "	.. 4 9	..	3 1	..	4 8	
3½ in. " "	.. 5 6½	..	3 9	..	5 6	
4 in. " "	.. 6 4	..	4 6	..	6 8	

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices, per yd.: 4 in., 7/4. .. 5 in., 8/9. .. 6 in., 10/6.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	17 0 0	to	18 0 0
Staffordshire Crown Bars — good merchant quality	17 10 0	..	18 10 0
Staffordshire "Marked Bars"	21 0 0	..	22 0 0
Mild Steel Bars	14 10 0	..	15 10 0
Steel Bars. Ferro-Concrete quality, basis price ..	14 10 0	..	15 10 0
Hoop Iron, basis price ..	21 0 0	..	22 0 0
" " Galvanised ..	34 0 0	..	36 0 0
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g.	18 0 0	..	19 0 0
" " " 24 g.	19 0 0	..	21 0 0
" " " 26 g.	20 0 0	..	22 0 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	24 0 0	..	25 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.....	25 0 0	..	26 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g...	27 0 0	..	29 0 0
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9ft. 20 g.	23 10 0	..	24 10 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	24 0 0	..	25 0 0
Ordinary sizes, 6ft. to 9ft. 26 g.	26 0 0	..	28 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6ft by 2ft. to 3ft. to 20g. and thicker ..	27 0 0	..	28 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	28 0 0	..	29 0 0
Best Soft Steel Sheets, 26 g.	30 0 0	..	31 0 0
Cut Nails, 3in. to 6in. .. (under 3in. usual trade extras.)	27 0 0	..	28 0 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings; painting two coats, and delivery to job, average price about 3s. per foot super.

LEAD, &c.

Delivered in London.

	£ s. d.		
LEAD—Sheet, English, 4 lb. and up	38 10 0	..	—
Pipe in coils	39 0 0	..	—
Soil Pipe	41 10 0	..	—
Compo pipe	42 10 0	..	—
NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.			
Old lead, ex London area, at Mills ..... per ton	23 0 0	..	—
Do., ex country, carriage forward..... per ton	24 0 0	—	—
COPPER—			
Strong Sheet ....per lb.	0 2 3	..	—
Thin " .... "	0 2 4	..	—
Copper nails .... "	0 2 3	..	—
Copper wire .... "	0 2 4	..	—
TIN—English Ingots "	0 1 9	..	—
SOLDER—Plumbers' "	0 0 10	..	—
Tinmen's..... "	0 1 0	..	—
Blowpipe ..... "	0 1 3	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	4½d.	32 oz. fourths	9½d.
" thirds	5½d.	" thirds	11d.
21 " fourths	6½d.	Obscured Sheet, 15 oz.	7d.
" thirds	6½d.	21 "	9d.
26 " fourths	7½d.	Fluted and Enamelled 15 "	11d
" thirds	8½d.	21 "	1/2

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	5½d.
⅛ Rough rolled	6½d.
¼ Rough rolled	7½d
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	7½d
Ditto, tinted	9½d.
Rolled Sheet	6½d.
White Rolled Cathedral.....	6½d.
Tinted do.	7½d.

Cast Plate is ½d. extra on the price of rough rolled.

PAINTS, &c.

			£ s. d.
Raw Linseed Oil	in pipes.....	per gallon	0 3 2
" " "	in barrels	"	0 3 3
" " "	in drums	"	0 3 4
Boiled " "	in barrels	"	0 3 7
" "	in drums	"	0 3 9
Turpentine	in barrels	"	0 6 3
"	in drums (10 gall.) ..	"	0 6 6
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)			58 0 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots .....per ton delivered			78 15 0
Red Lead, Dry (packages extra) .. per ton			42 0 0
Best Linseed Oil Putty ..... per cwt.			0 17 6
Filocol..... per cwt.			0 15 6
Size. X D Quality..... fkn.			0 4 6

VARNISHES, &c.

		Per gallon. £ s. d.
Oak Varnish.....Outside		0 15 0
Fine ditto	ditto	0 17 2
Fine Copal	ditto	1 1 6
Pale Copal	ditto	1 2 6
Pale Copal Carriage	ditto	1 4 6
Best ditto	ditto	1 14 6
Floor Varnish..... Inside		0 19 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal flatting	ditto	1 0 6
Hard drying Oak	ditto	0 18 0
Fine Hard drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 6
Pale ditto	ditto	1 2 6
Best ditto	ditto	1 14 6
Best Japan Gold Size.....		0 12 6
Best Black Japan		0 18 0
Oak and Mahogany Stain (water)		0 17 6
Brunswick Black		0 11 9
Berlin Black.....		0 16 6
Knotting (patent)		1 18 0
French and Brush Polish		1 8 0
Liquid Dryers in Terebine		0 13 6
Cuirass Black Enamel		0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	16	0
Add if in clay	" "	1	10
Add for every additional depth of 6 ft.	" "	1	4
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

Portland cement concrete in foundation 1 to 6 ..	per yard cube	43	0
Add if in underpinning in short lengths	" "	9	6
Add if in floors 6 in. thick	" "	3	10
Add if in beams	" "	4	9
Add if aggregate 1 : 2: 4	" "	12	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	4	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	41	10	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	27	0	0
Add if in Portland cement and sand	"	4	0	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat strucks or weathered joint.....	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	11½
Axed in stocks	" "	0	1	11
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	8

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	5
Setting ordinary register grates and stoves	each	1	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	5	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	7	6
Three-quarter-inch vertical damp course	" "	11	8
½ inch on flats in two thicknesses.....	" "	8	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	4

MASON.

York stone templates fixed	per foot cube	16	3
York stone sills fixed	" "	28	6
Bath stone and all labour fixed	" "	15	0
Portland stone fixed	" "	23	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails....	per square	98 0
Do. 20 in. × 10 in. Do. Do.	"	115 0
Do. 24 in. × 12 in. Do. Do.	"	117 6

CARPENTER AND JOINER.

Fir framed in plates .....per foot cube		7	0
Do. joists	" "	8	0
Do. roofs, floors and partitions	" "	8	0
Do. trusses	" "	10	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	42/–	48/–	56/–	85/–

		s.	d.
Flat centering for concrete floor, including struts or hangers .. "		63	0
Do. to beams .....per ft. sup.....		1	6
Centres for arches ..... "		2	0
Gutter boards and beams..... "		1	8

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		49/–	58/–	67/–
Do. tongued and grooved	"		54/–	65/–	72/–
Do. matchings	"	45/–	55/–		
Moulded skirting, including backings and grounds .....per ft. sup.		2/–	2/3	2/9	3/3

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	11
Two Do. Do. Do.	" "	2	4½
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size.....	" "	4	11

DOORS.

		1½"	1¾"	2"
Two-panel square framed .....per ft. sup.		2/6	2/9	2/11
Four-panel Do. .... "		2/10	3/2	3/5
Two-panel moulded both sides, ... "		3/2	3/5	3/8
Four-panel Do. Do. ..... "		3/6	3/9	4/–

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	19	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/11	2/–	2/3
Deal shelves and bearers	"	1/8	1/10	2/1
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/10	3/6	4/–	—	—
Deal strings wrot in both sides and framed	3/10	4/1	—	—	—

		s.	d.
Housings for steps and risers	each	0	11½
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4½
Sash fasteners .....11½d.		Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/–
Casement stays.....	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	21	0
Plain compound girders	"	24	0
Do. stanchions	"	27	0
In roof work	"	33	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints ..	ft. run	1/11	2/4½	3/7	4/–
Ogee Do. Do. ..	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/–
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10½
Copper nailing	" "	0	7

	½"	¾"	1"	1½"	2"	4"
Drawn lead waste per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service "	1/5	1/11	2/3	3/6		6/2
Do. soil "					3/3	8/2
Bends in lead pipe each	1/2	1/8	2/1	2/10	3/6	
Soldered stop ends "	11d.	1/–	1/3	1/11	2/4	4/10
Red lead joints .... "	2/10	3/6	4/–	4/11	6/6	9/9
Wiped soldered joints "				14/7	19/6	
Lead traps and cleaning screws .....„	6/4	9/7	15/4	41/–		
Bib cocks and joints ..„	15/4	17/2	25/8	64/–		
Stop cocks and joints „						

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	2
Do. Do. Sirapite	" "	3	7
Do. Do. Keen's	" "	4	9
Add sawn lathing	" "	1	11
Add metal lathing	" "	3	4
Portland cement screed	" "	2	9
Do. plain face	" "	4	6
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	7

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	1
26 oz. Do.	" "	1	4
Obscured sheet	" "	1	8
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	3
Knotting and priming	" "		8
Plain painting 1 coat	" "	1	0
Do. 2 coats	" "	1	9
Do. 3 coats	" "	2	6
Do. 4 coats	" "	3	3
Graining	" "	2	8
Varnishing twice	" "	2	0
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	6
Wax polishing	per foot sup.	0	10½
French polishing	" "	1	3
Preparing for and hanging paper	per piece	2/– to 5/–	

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS.

Messrs. The Ingersoll Rand Co., Ltd., have been appointed sole agents in the British Isles for the Swedish "Sandviken" drill steel.

Messrs. Frederick Braby & Co., Ltd. (Ida Works, Deptford, S.E.8), have issued a new and revised pocket price list of cisterns, tanks and cylinders. The prices have been considerably reduced, and several new sizes of cisterns have been added.

We are informed that the royal train used by H.R.H. the Prince of Wales during his tour through India has been decorated with varnishes and enamels manufactured by Messrs. Robert Ingham Clark & Co., Ltd., of West Ham Abbey. Their well-known "Pearline" (flat) enamel has been used for the interior of the coaches.

We understand that the Steel Window Association, which was formed for the purpose of popularising and cheapening steel casements in competition with wooden ones, has now been dissolved, the objects of the Association having been achieved. It is interesting to learn that the operations of the S.W.A. were carried on without price control, but solely in the interests of cheap production. Correspondence respecting the propaganda of the Association should no longer be addressed to 246, High Holborn, but to the individual firms comprising the Association.

Messrs. Ewart & Son, Ltd., of Euston-road, N.W.1, have issued an illustrated brochure describing their "Califont" gas water-heater for supplying hot water to baths, sinks, lavatory basins, &c. The gas is automatically controlled, so that beyond lighting the pilot-light it requires no attention. It is operated entirely by the opening and closing of the hot-water taps in any part of the house. The gas remains always at the lowest point until brought into full power by the opening of any hot-water tap on the system. It remains at full power only while the hot water is running, and returns to minimum directly the tap is shut off. The amount of gas consumed is automatically adjusted to the amount of water required.

"Out-of-the-Way" sliding doors are fully illustrated and described in a booklet issued by the manufacturers, Messrs. George W. King, Ltd., of Windmill-lane, Stratford, E.15. This type of door is specially suitable for garages and other buildings where large doorways are required and where space does not permit the use of folding doors, and also for buildings in which doors are required of a width in proportion to the wall which does not permit the use of sliding doors on a straight runway. In the "Out-of-the-Way" system the door is hung from a runway on a track over the inside of the doorway and curved at the corner so that it extends along the side wall. The door is hinged in sections, and when opened lies flat against the side wall, cutting off only a small portion of the corner of the building where one section is hanging from the curved part of the track. The door is held in position at the bottom by two stay rollers screwed to the floor, and a stay roller attached to the door prevents it from rubbing the side wall when being opened or closed. The trolleys by which the door is hung from the track are swivelled at the point where they connect with the door straps to facilitate the passage round the curved part of the track.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted.* † Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

ABERGAVENNY.—For erection and completion of 16 houses in blocks of two, and incidental works in connection therewith, off Park-road, for the B.C. Mr. Wm. H. Hopwood, Town Clerk, Town Hall, Abergavenny :—

*Building Guild, Ltd., Cardiff—		
12 Houses, Plan 177, at.....	£654	
4 Houses, Plan A, at.....	693	
Total		£10,620

AYLESBURY.—For pumping plant at the sewage disposal works, for the T.C. :—

*J. Wolstenholme & Co.....	£1,491

BANKHEAD.—For erection of 100-ton capacity reinforced concrete silo, at the Rowett Research Institute, for the University of Aberdeen. Messrs. Tawse & Allan, engineers, 10, Bon-Accord-square, Aberdeen :—

Robert Moir, Aberdeen (32 weeks)	£1,020 19 0
Kelvin Construction Co., Glasgow (10–14 weeks; no guarantee).....	864 5 10
M. Muir & Co., Kilmarnock (20 weeks).....	762 17 3
Melville, Dundas & Whitson, Glasgow (no time stated)	699 17 0
Melville, Dundas & Whitson, Glasgow (for silo of different design)	629 17 0
*James Scott & Son, Ltd., Aberdeen (8 weeks).....	584 6 4

BARNSLEY.—For erection of a public convenience off Kendray-street, for the T.C. The Borough Engineer, Fairfield House, Barnsley :—

Excavator and mason—	
G. Haigh, Barnsley.....	£1,210 0 0
Carpenter and joiner—	
J. Watling & Sons. Barnsley	190 0 0
Plumber and glazier—	
E. Broley, Barnsley.....	563 10 0
Plasterer's work—	
R. Dryden, Barnsley.....	31 0 0
Painter's work—	
Ellam Bros., Barnsley.....	27 0 4
Reinforced concrete roof—	
Hodkin & Jones, Sheffield..	106 10 0

BARNSTAPLE.—For drainage and other work at the Wesleyan Schools, for the E.C. The Borough Surveyor, Barnstaple :—

Wm. Slee & Son, Barnstaple	£276 10 0
E. G. Luxton, Barnstaple	258 8 2
J. Wakley, Barnstaple.....	241 4 3
H. Sillifant & Son, Barnstaple ..	234 13 0
E. Karslake & Son, Barnstaple..	212 0 0
H. Burgess & Son, Barnstaple..	199 10 0
*S. Sanders, Barnstaple	184 0 0

EAST HAM.—For various supplies to the East Ham B.C., for three months :—

*J. J. Bassett & Co.—Glazed stoneware pipes (per lineal yard) :—
Standard list prices, plus 42½ per cent. plus 15 per cent. delivered to street or depot.
Standard list prices, plus 7½ per cent. plus 15 per cent. delivered East Ham Station.

*J. J. Bassett & Co.—Glazed stoneware gully fittings, &c. (at per fitting) :—
Items 1 and 2—Standard list prices, plus 42½ per cent. and 15 per cent.
Item No. 3—12s. each.
Items 4 to 7—Standard list prices, plus 42½ per cent. and 15 per cent.
Item No. 8—96s. 3d. plus 42½ per cent.
Item No. 9—83s. 9d. plus 42½ per cent.
Items 10 to 16—Standard list prices, plus 42½ per cent. and 15 per cent.
Less discount 25 per cent. on the net off all ironwork.

*W. Griffith & Co.—Norway granite kerb and channel. Straight kerb, 4s. 1d. per ft. run; circular kerb 4s. 10d.; straight channel, 4s. 0½d.; circular, 4s. 9½d.

*W. Griffith & Co.—Crushed granite at £1 8s. 11d. to £1 13s. 10d. per ton.

*Do.—Guernsey granite chippings at from 28s. 1d. to 24s. 3d. per ton according to grade.

*Do.—Guernsey granite setts at from 79s. to 81s. 9d. according to size.

*Patent Victoria Stone Co.—Paving flags at 7s. 11d. per yard super.

EAST HAM.—For supply of new boiler at the Refuse Destructor works, for the B.C. :—

*Babcock & Wilcox	£1,615

EAST HAM.—Supply of 725 sheets of corrugated iron and fittings for repair of roofing of tanks at sewage works, for the B.C. :—

*Pryke & Palmer.....	£272 6 4

ELLAND.—For erection of bungalow off Hullen Edge-lane, Elland. Mr. H. Thompson, architect, Westgate, Elland :—
Masons—Marshall & Rushworth, Elland.
Joiners—M. A. Balmforth, Elland.
Plumbers—M. E. Turner, Elland.
Plasterers and Slaters—D. Sykes & Son, Elland.

FLINT.—For oak posts, &c., for the C.C. :—
*J. Owens, Mostyn—
Oak posts, 10d. each.
Oak straining posts, 4s. 6d. each.
Oak hanging and clapping posts, 13s. each.
Oak field gates, 39s. each.

HENLEY-ON-THAMES.—For erection of the Henley-on-Thames and District War Memorial New Cottage Hospital. Messrs. Chas. Smith & Son, architects and surveyors, 164, Friar-street, Reading :—

S. K. Robins, Henley-on-Thames	£9,721 0
Brown & Sons, Nettlebed.....	9,450 0
Walden & Son, Henley-on-Thames	9,336 0
Cox & Co., Maidenhead.....	8,750 0
Butler Bros., Henley-on-Thames..	8,623 10
*Geo. S. Lewis & Bros., Reading..	8,550 0

(Not including road-making or lighting.)

ILFORD.—For laying a new wood-block floor at Christchurch-road Council School, for the Council Education Committee. Mr. H. Shaw, M.Inst.C.E., Town Hall, Ilford :—

J. F. Ebner, Cubitt Town—	
Deal	£264 12 0
Pine	306 4 0
Stevens & Adams, Wandsworth—	
Deal	215 0 0
Pine	245 0 0
Artistic Flooring Co., Hackney—	
Deal	324 0 0
Pine	378 0 0
Improved Wood Pavement Co., London—	
Deal	269 10 0
Pine	311 10 0
Zeta Wood Flooring Co., Stratford	255 0 0
*Acme Flooring Co., Victoria Park	205 6 8

KINGSWOOD.—For the erection of 12 houses on the Hanham site, for the U.D.C. :—

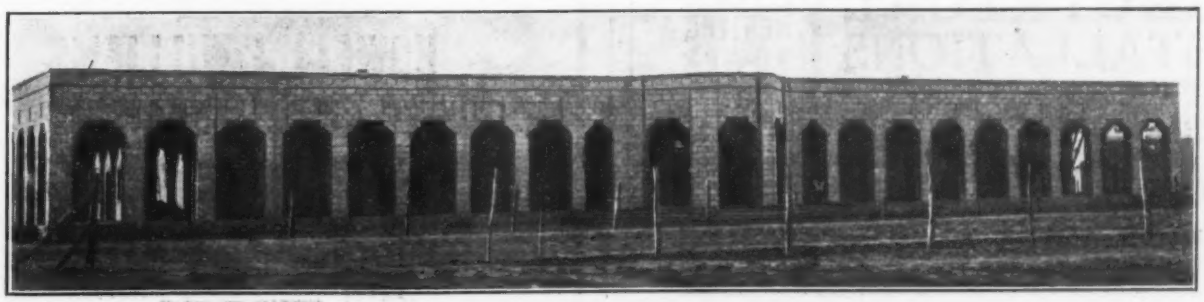
T. A. Monks, Two Mile Hill.. per house	£625
*Willmott Bros., Kingswood "	583

LONDON.—For roughing of granite setts in position in carriageways, for the Westminster C.C. :—
Wm. Griffiths & Co., Ltd.—7s. 9d. to 11s. 3d. per sq. yd. according to width of setts.
John Mowlem & Co., Ltd.—7s. to 11s. per sq. yd., ditto.
G. J. Anderson—6s. to 8s. per sq. yd., ditto.
Alex. Thomson & Co.—5s. 6d. to 9s. 6d. per sq. yd., ditto.
*Fitzpatrick & Son—4s. 2d. per sq. yd., all widths.

LONDON.—For painting works at the Marshall-street baths, for the Westminster C.C. :—

Townsend & Pearson.....	£350 0
Army & Navy Co-operative Society	324 0
Burton Bros.....	283 10
Mayfair Window Cleaning Co.....	240 0
Wright & Son	240 0
*J. R. Sims.....	188 0

LONDON.—For maintenance of asphalte carriageway in Victoria-street for five years, for the Westminster C.C. :—
*Limmer & Trinidad Lake Asphalt Co., Ltd.—3s. per annum for 2 years (£2,199 per annum) and 2s. 9d. per annum for a further three years (£2,015 15s. per annum).



Concrete Bungalows at Baghdad.

[These bungalows have been built by the Railway Department at Baghdad. The walls are of concrete blocks manufactured on a "Winget" machine.]

LONDON.—Supply of 1,000 yards of 2½ in. non-slip paving slabs :—

*Non-slip Stone Co. (Halifax)..14s. 6d. per yard.

LONDON.—Supply of 12 cast-iron upright ballast bins, to the Westminster C.C. :—

*M. K. Ryan..... £108

LONDON.—Supply of heater for Dulwich Baths, for the Camberwell B.C. :—

E. B. Gapp & Co., S.E.—
Horizontal heater, 6 ft. dia. by 12 ft. long between the two plates, and 15 ft. long overall. Capacity: 8,000 galls. per hour at 120 deg. F..... £828

Spencer-Bonecourt Co., S.W.1—
Spencer-Horwood vertical heater, 5 ft. 6 in. dia. by 12 ft. high—4,000 galls. per hour..... net 790
Alternative: Spencer-Horwood vertical heater—8,000 galls. per hour at 120 deg. F..... 875
Alternative: Two Spencer-Horwood vertical heaters each 5 ft. 6 in. dia. by 12 ft. high—8,000 galls. per hour at 120 deg. F..... 1,493

*Buckleys (London), Ltd., King's Cross—
Vertical calorifier, 6 ft. dia. by 12 ft. high, mild steel—4,000 galls. per hour at 120 deg. F. (steel tubes)..... *560
Storage 1,800 galls. approx.
Ditto—Ditto (copper tubes) .....£656 10s.
Alternative: Ditto—8,000 galls. per hour (steel tubes) 635
Ditto—Ditto ditto (copper tubes) 780

LONDON.—For demolition of buildings, 42 and 44, Great Peter-street, for the Westminster C.C. :—

B. Goodman.....	£875	0
J. R. Sims.....	788	0
Townsend & Pearson, Ltd.....	649	0
H. Boyer	533	0
*Sabey & Co.....	448	10

LONDON.—For cleaning interior paintwork of Leadenhall Market, for the City Corporation :—

*P. Eustace & Co. £700

LONDON.—For execution of well and river pipe work at Limehouse generating station, for the Stepney B.C. :—

S. Pearson & Son (Contracting Department), Ltd., S.W.1.....	£32,500
Whittaker Ellis, Ltd., S.W.1.....	32,195
Walter Scott & Middleton, Ltd., S.W.1	28,500
John Mowlem & Co., Ltd., S.W.1..	27,400
John Cochrane & Sons, Ltd., S.W.1	22,100
*Perry & Co. (Bow), Ltd., Bow.....	20,226

LOWESTOFT.—Supply of 1,700 yards of 12 in. cast-iron pipes for the Oulton Broad drainage scheme, for the T.C. :—

*Staveley Coal & Iron Co., Chesterfield £9 15 per ton.

MIDDLESEX.—Erection of market garden buildings on small holdings Nos. 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14, at Denham Park, for the C.C. :—

Lovell & Sons—Per holding.....		£397
W. Try	,, ...	351
*A. Monk	,, ...	300

MIDDLESEX.—Erection of a cottage (Type E) on each of the following small holdings, namely, No. 2, No. 3, No. 60 and No. 62, Denham Park Estate, for the Middlesex C.C. :—

Lovell & Sons—Each cottage		947
A. Monk	,, ...	875
*W. Try	,, ...	835

MIDDLESEX.—Provision of earth closets and fuel stores for nine pairs of cottages (Type "B" and "C"), on the Denham Place Estate, for the Middlesex C.C. :—

Lovell & Sons.....	per pair	£44
W. Try	,,	44
*A. Monk	,,	36

SHEERNESS.—For construction of 190 yds. of 1 ft. 9 in. by 1 ft. 2 in. concrete egg-shape tube sewers and about 1,884 yds. of stoneware pipe sewers, for the U.D.C. Mr. F. W. S. Stanton, engineer, 3, Victoria-street, Westminster, S.W. :—

Hardy & Co., Woking.....	£18,170
*T. W. Pedrette, Enfield.....	17,717

STOCKTON-ON-TEES.—For erection of 50 houses on the Blue Hall site, for the T.C. :—

A. McLeod, Thornaby	£31,527	2	6
D. G. Somerville & Co., Newcastle	31,076	0	0
Building Guild, Ltd., Manchester	28,918	0	0

(Forwarded to Ministry of Health.)

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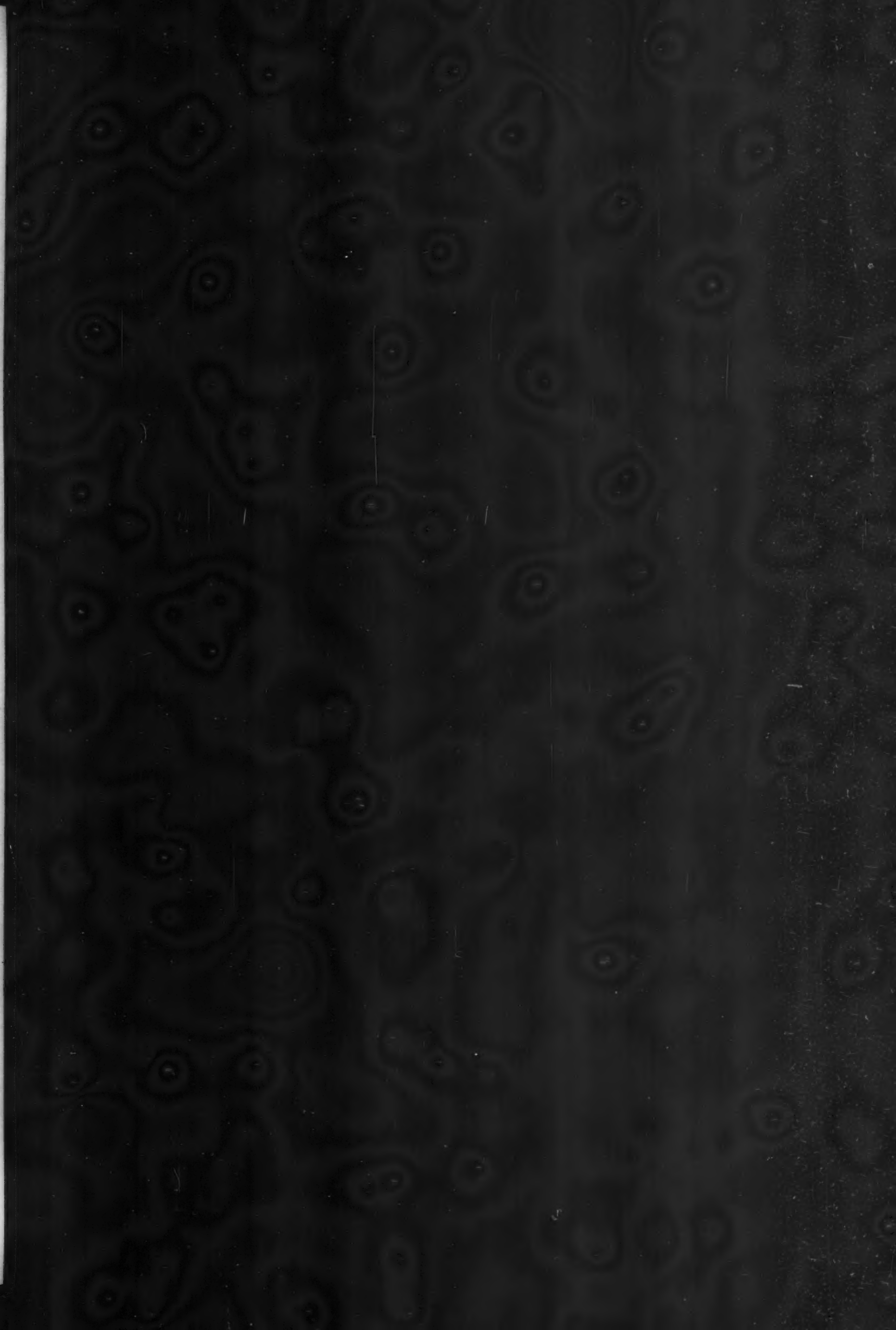
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